

# HTV SERIES 1-PIECE BALL VALVE

Single Body metal seated ball valves for Power applications.



The Jarecki HTV Series ball valve is a quality choice for your high temperature and pressure valve needs. HTV Series valves are used for applications in the Power Industry.

#### Standard Applications:

Steam (Saturated/Superheated)  
 Attemperator Isolation Valves  
 Boiler Feedwater Pump Recirculation  
 Bottom Blowdown  
 Bypass Injector Isolation  
 Condensate Drain Lines Above/Below Turbine Throttle Valve  
 Feedwater Heater Isolation  
 Feedwater Heater Drain  
 Isolation Turbine Drain  
 Main Steam Drum Vents  
 Reheat Isolation  
 Steam Trap Isolation

## Design

#### Valve Size

- 1/2" to 4"

#### Pressure Rating

- 600# Available in Sizes 2" to 4"
- 900# Available in Sizes 2" to 4"
- 1500# Available in Sizes ½" to 4"
- 3200# Available in Sizes ½" to 4"

#### End Connections

- Socket Weld
- Butt Weld

#### Valve Construction

- 1 Piece Valve Design
- Forged Valve Bodies
- Floating Ball
- No Body Gasket
- Actuator Mounting Pad
- Live Loaded Stem Packing
- Designed to B16.34
- Blow Out Proof Stem
- Heavy Duty Oversized Stem For High Torque

#### Seat Designs

- Bi-Directional
- Uni-Directional – Standard

#### Service Conditions

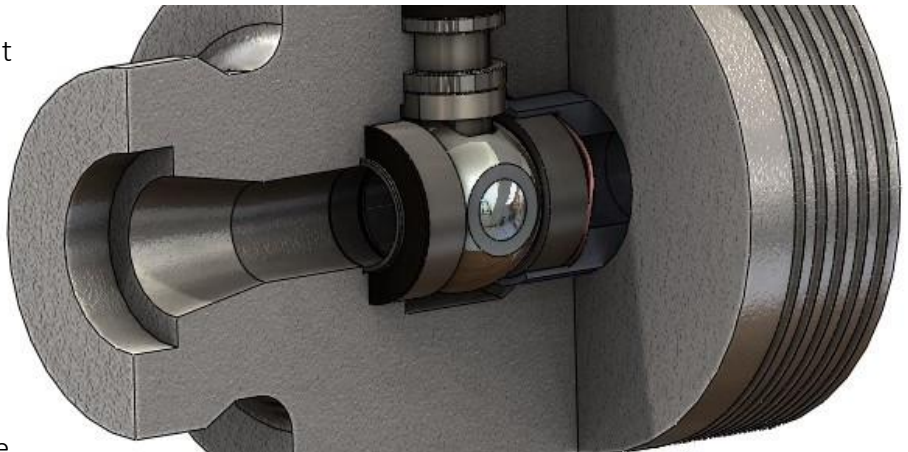
- Temperatures Up to 1200 deg F
- Pressures as High as 6500 psi
- For Clean and Abrasive Services

### Tight Shut-Off

- The HTV Series has zero leakage. Each ball is spherically ground before it is mated to the seats, providing a high precision seal. A wide seating surface rotating on a perfect sphere provides more seal area and lower contact stress. The lower contact stress reduces torque, improves valve sealing life, and has better shut-off.
- Jarecki Phantom Port means 75% less wear area during every stroke. That means drastically longer sealing life and performance. This allows for tight shut-off even on high cycle applications.

### Lower Torque

- Wide seating area reduces contact stress. This reduces the torque and improves valve life.
- A wave spring is used to load the upstream seat. This spring type is a superior choice in maintaining constant spring force during temperature fluctuations.



### Impressive Stem Design

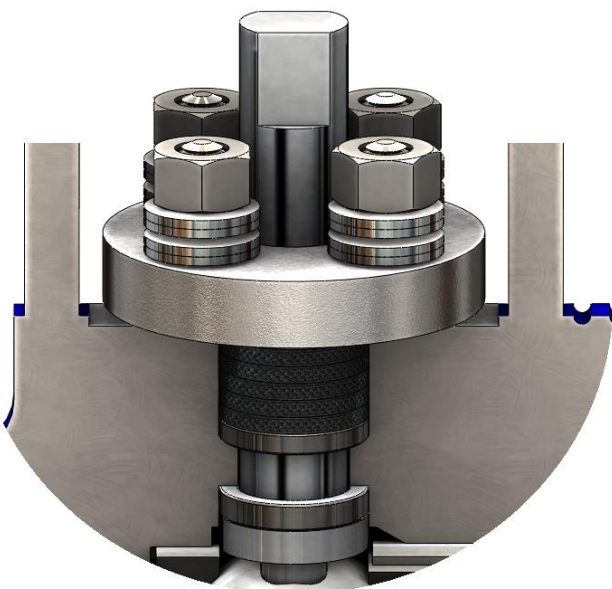
- Our oversized stems will withstand high torque in high pressure applications without twisting.
- Blow-Out proof design ensures workperson safety

### Zero Body Leakage

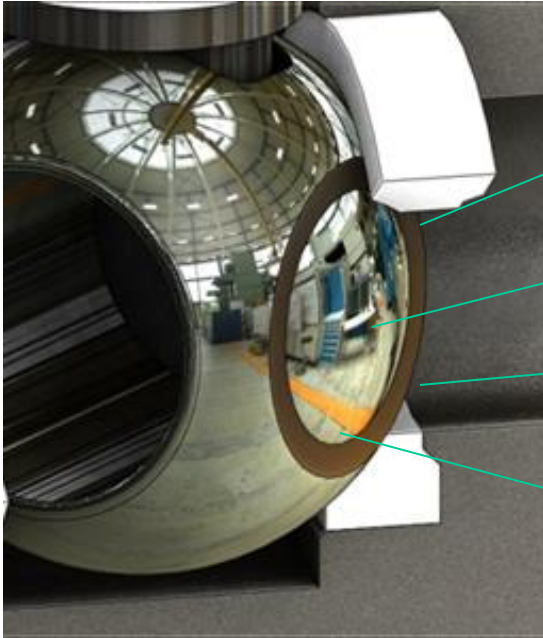
- Valve is a one piece body design. There are **no** body gaskets which can produce a possible leak path.

### Packing Design

- Live loaded packing system specially designed for high pressure applications
- Bearing guided coupler prevents any lateral movement when stroking.
- Plenty of adjustment.



## Phantom Port



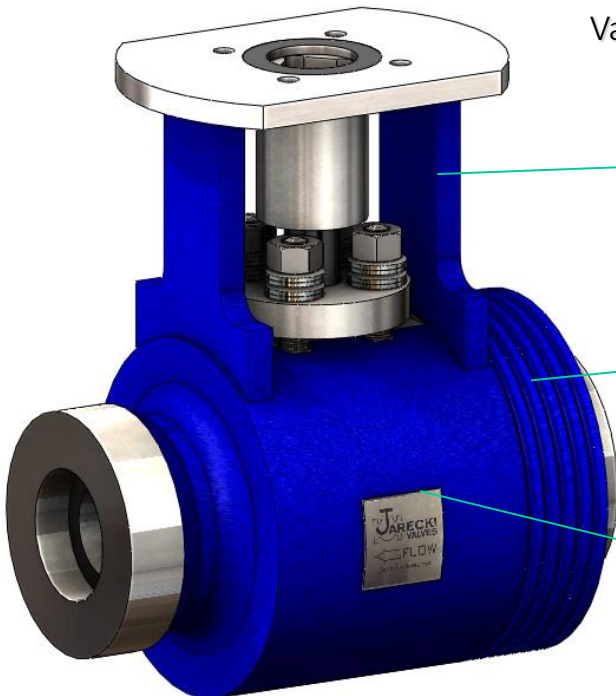
Recess machined into the ball

Dome configuration maintains ball strength

Allows flow around both sides of the ball while stroking. This reduces both wire draw and cavitation damage.

75% less surface area in contact with the seats

## Valve Body



Elevated mounting pad to clear insulation and protect actuation from the heat.

Baffles help cool the valve body during the post weld heat treatment. This protects the trim and stem packing from exposure.

Valve body is oversized. The wall thickness is 20% more than that required in ANSI B16.34.

## Quality

● In Metal Seat Valves, .003 of an inch can make all the difference in torque, shut-off and overall valve performance. At Jarecki Valves, the internal assembly of the ball and seats is verified as a unit to ensure proper valve performance.

● The employees at Jarecki Valves are not just machinists and assemblers, but are experienced valve producers. Machinists are trained to understand the purpose and importance of the parts which they produce inside the function of the valve. Experience, Cross training and retention are key in having exceptional employees making an exceptional product.

● At Jarecki Valves, 95% of our business is metal seated ball valves. The employees understand and excel at producing the highest quality metal seated valve available.

● Production for every major component is done at our facility by experienced technicians. We do not risk the quality of our product to the lowest bidder or importer.

● The best materials are selected from ISO 9000 Certified vendors. Materials such as Inconel 718 are used on trim components because of its high temperature properties.

● Every component in the assembly is dimensionally inspected prior to assembly to ensure the valve will assemble and function to its highest capabilities.

● Tight shut-off is accomplished by grinding every ball to very tight tolerances and an 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, cycle test, and seat leakage test performed on it. The customer is assured a good valve when it is put in service.



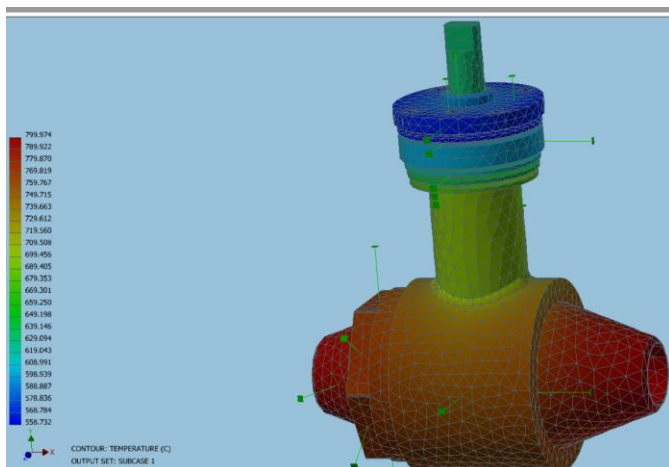
## Coatings

● Balls and Seats are HVOF coated for excellent bond strength. Jarecki works with the best thermal spray companies in the country to determine the best blends and materials to be used for our trim coatings. Balls and seats have different materials so that there is no chance of catching or galling. Materials utilized are proven in steam service.

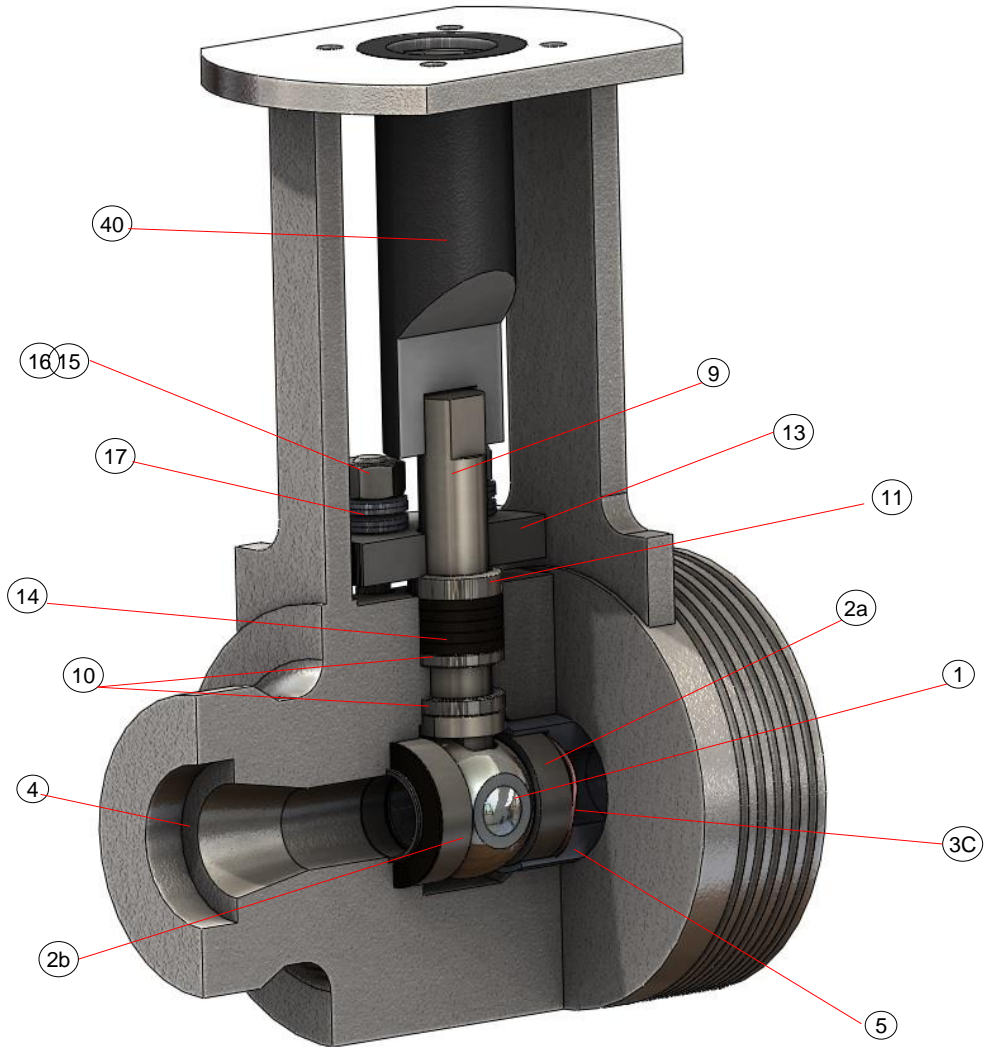
## Technology

● Jarecki's Engineering Design and Applications Group has extensive experience in critical applications across a broad range of industries. Using computational fluid dynamics and 3D modeling, the team at Jarecki is able to be confident in their design. Thermal expansion of components and bracket heights to protect actuation are just some of the variables considered.

● Jarecki manufactures its components in the USA. To do that Jarecki uses the latest technology in turning and milling. Automation is the key to success for quick deliveries and quality.



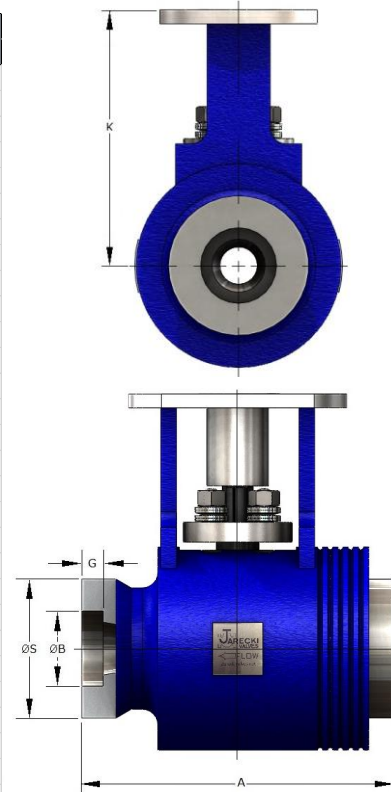
## BILL OF MATERIAL



ITEM NO.	NAME	LOW TEMP TRIM 700 DEG MAX	HIGH TEMP TRIM	HIGH TEMP / PRESSURE TRIM
1	BALL	17-4SST W/ HCP	410 SST W/ CHROME CARBIDE	718 INCONEL W/ CHROME CARBIDE
2A	GUIDE SEAT	COLMONOY	410SSST W/ CHROME CARBIDE	718 INCONEL W/ CHROME CARBIDE
2B	SEAL SEAT	COLMONOY	410 SST W/ CHROME CARBIDE	718 INCONEL W/ CHROME CARBIDE
3A	SEAT SEAL	GRAPHITE	GRAPHITE	GRAPHITE
3C	SEAT SPRING	17-7 SST	A-286	A-286
4	BODY	A105	F22 / F11/ F91	F22 / F11/ F91
5	SEAT GUIDE	410 SST	410 SST	410 SST
9	STEM	17-4SST	A286	INCONEL 718
10	THRUST WASHER	NITRONIC 60	STELLITE	STELLITE
11	COMPRESSION RING	316 SST	316 SST	316 SST
13	COMPRESSION PLATE	A105	F-22	F-22
14	STEM PACKING	INCONEL REINFORCED GRAPHITE	INCONEL REINFORCED GRAPHITE	INCONEL REINFORCED GRAPHITE
15	GLAND STUD	ASTM A193 Gr. B8M	ASTM A193 Gr. B8M	ASTM A193 Gr. B8M
16	GLAND NUT	ASTM A194 Gr. 8M	ASTM A194 Gr. 8M	ASTM A194 Gr. 8M
17	BELLEVILLE WASHER	17-7SST	INCONEL 718	INCONEL 718
40	COUPLER	STEEL	STEEL	STEEL

## Standard Dimensions

Size	Class	A		Ball Bore Diameter	G	K	ØB	ØS	Cv	lbs
		SW	BW							
1/2	3200	5.50	-	0.38	0.38	4.75	0.87	2.60	9.00	15.00
1/2	4500	7.50	-	0.38	0.38	4.75	0.87	2.60	9.00	15.00
3/4	3200	5.50	-	0.38	0.50	4.75	1.08	2.60	9.00	15.00
3/4	4500	7.50	-	0.38	0.50	4.75	1.08	2.60	9.00	15.00
1	1500	6.50	-	0.63	0.50	4.90	1.34	2.25	18.00	15.00
1	3200	6.50	-	0.63	0.50	4.90	1.34	2.65	38.00	24.00
1	4500	8.00	-	0.63	0.50	5.50	1.34	2.75	38.00	32.00
1 1/2	1500	7.00	7.50	0.63	0.50	4.90	1.93	3.00	11.00	15.00
		7.00	7.50	0.88	0.50	6.50	1.93	3.00	35.00	34.00
1 1/2	3200	7.00	7.50	0.63	0.50	5.50	1.93	3.50	10.00	24.00
		7.50	8.00	0.88	0.50	6.50	1.93	3.50	55.00	45.00
1 1/2	4500	8.00	-	0.63	0.50	5.50	1.93	3.75	10.00	32.00
		7.50	8.00	0.88	0.50	6.50	1.93	3.75	55.00	75.00
2	900	7.00	7.50	0.88	0.62	6.50	2.42	3.75	20.00	33.00
		7.50	8.00	1.20	0.62	7.00	2.42	3.75	70.00	56.00
2	1500	7.00	7.50	0.88	0.62	6.50	2.42	3.75	20.00	33.00
		7.50	8.00	1.20	0.62	7.00	2.42	3.75	70.00	56.00
2	2500	7.00	7.50	0.88	0.62	6.50	2.42	3.75	20.00	43.00
		7.50	8.00	1.20	0.62	7.00	2.42	3.75	70.00	55.00
2	3200	9.25	9.75	0.88	0.62	7.00	2.42	4.00	30.00	48.00
2	4500	9.50	10.00	0.88	0.62	7.50	2.42	4.55	30.00	75.00
2	4500	10.00	10.50	1.20	0.62	7.50	2.42	4.55	30.00	85.00
2 1/2	900	8.00	8.50	1.50	0.62	6.50	2.92	3.75	144.00	55.00
2 1/2	1500	8.00	8.50	1.50	0.62	6.50	2.92	4.00	144.00	58.00
2 1/2	2500	10.00	10.50	1.50	0.62	7.00	2.92	4.38	144.00	62.00
2 1/2	3200	10.00	10.50	1.20	0.62	7.50	2.92	4.50	88.00	68.00
2 1/2	4500	10.00	10.50	1.00	0.62	7.50	2.92	5.38	37.00	85.00
3	900-3200	-	10.50	1.50	-	7.00	-	-	84.00	165.00
3	4500	-	12.00	1.50	-	7.50	-	-	84.00	165.00
4	1690	-	12.00	1.50	-	6.50	-	-	95.00	75.00
4	2680	-	12.00	1.50	-	7.50	-	-	95.00	125.00
4	4500	-	12.00	1.50	-	8.00	-	-	95.00	175.00



### FORGED CARBON STEEL A 182 A105

#### STANDARD CLASS

Temp	1500	3200	4500
100	3705	7899	11110
200	3395	7241	10185
300	3270	6978	9815
400	3170	6759	9505
500	3015	6430	9040
600	2840	6055	8515
650	2745	5858	8240
700	2665	5662	7960
750	2535	5413	7610
800	2055	4389	6170
850	1595	3401	4785
900	*	*	*
950	*	*	*
1000	*	*	*
1050	*	*	*
1100	*	*	*
1150	*	*	*
1200	*	*	*

### FORGED CHROME MOLY STEEL A 182 F-22

#### STANDARD CLASS

Temp	1500	3200	4500
100	3750	8000	11250
200	3750	8000	11250
300	3640	7769	10925
400	3530	7527	10585
500	3325	7088	9965
600	3025	6450	9070
650	2940	6277	8825
700	2840	6055	8515
750	2660	5669	7970
800	2540	5413	7610
850	2435	5195	7305
900	2245	4793	6740
950	1930	4121	5795
1000	1335	2853	4010
1050	875	1865	2625
1100	550	1170	1645
1150	*	*	*
1200	*	*	*

### FORGED CHROME MOLY STEEL A 182 F-91

#### STANDARD CLASS

Temp	1500	3200	4500
100	3750	8000	11250
200	3750	8000	11250
300	3640	7769	10925
400	3530	7527	10585
500	3325	7088	9965
600	3025	6450	9070
650	2940	6277	8825
700	2840	6055	8515
750	2660	5669	7970
800	2540	5413	7610
850	2435	5195	7305
900	2245	4793	6740
950	1930	4121	5795
1000	1820	3877	5450
1050	1800	3840	5400
1100	1510	3218	4525
1150	1115	2377	3345
1200	720	1536	2160



# ORDERING INFORMATION

**SIZE**

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

**VALVE SERIES**

HTV One Piece High Temperature Ball Valve

**VALVE BODY MATERIAL**

B	A105 Carbon Steel	R	F-91 Chrome Moly Forged Steel
C	F-22 Chrome Moly Forged Steel	1	F-11 Chrome Moly Forged Steel
J	316H High Temperature Stainless Steel		

**VALVE TRIM**

C	410 Stainless Steel Ball and Seats with Chrome Carbide Coat, 410 sst Stem
P	17-4 SST Ball Hard Chrome Plated, 17-4 SST Chrome Carbide Coated Seats, 17-4 SST Stem
R	Inconel Ball and Seats with Chrome Carbide Coat, Inconel Stem

**BALL SIZE**

0.50	.50" Ball Bore	0.88	.88" Ball Bore	1.20	1.2" Ball Bore
0.63	.63" Ball Bore	1.00	1" Ball Bore	1.30	1.30 Ball Bore
1.50	1.50 Ball Bore				

**PRESSURE CLASS**

06	ANSI 600# Pressure Class	2	ANSI 2500# Pressure Class	D	Add After Pressure Class To Denot Butt Weld End
09	ANSI 900# Pressure Class	3	ANSI 3200# Pressure Class		
1	ANSI 1500# Pressure Class	4	ANSI 4500# Pressure Class		

**OPTIONS**

0	No Options
29	Extended Bonnet

**OPTIONS**

0	No Options
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**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 for open and closed
SA	Stonel Axiom Model AN35S1NC02RA. The Axiom is a Combined Limit Switch and Solenoid

**EXAMPLE**

1 — HTV C C 0.63 — 1 0 0 125FC 0 SA

Model No. 1-HTVCC0.63-100125FC0SA 1" HTV Series Ball Valve, F-22 Body with 410 Chrome Carbide Coated Trim, .063 Bore, V-Tork 125 Pneumatic Actuation Fail Closed, Stonel Axiom Limit Switch with Solenoid Valve



## *THE COMPANY*

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 is now using the experience in providing quality valves for today's industries.

Jarecki Valves supplies valves to a variety of industries, including Pulp and Paper, Chemical, Petrochemical, Power, Oil and Gas, Mining, and Municipal.

Not only do we support a standard product line, but we also provide services for designing valves for specific applications. Our experienced engineering staff will work one on one with customers to ensure they get the right product. We also provide high alloy valves, valves with hardened surfaces, valves for high temperatures and pressures, and metal seated valves with are bubble tight. For these reasons, Jarecki Valves are trusted in some of the harshest environments.



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