ABSA
the pressure equipment safety authority

9410 - 20 Ave N.W.
Edmonton, Alberta, Canada T6N 0A4
Tel: (780) 437-9100 / Fax: (780) 437-7787

July 24, 2025

Attention: Jason Woh
VALVTECHNOLOGIES INC
5904 BINGLE ROAD
HOUSTON, TX 77092

The design submission, Tracking Number 2025-03890, Web Portal Number 2025-S3224, originally received on June 11, 2025 was surveyed and accepted for registration as follows:

CRN : 0C02804.2 **Accepted on:** July 24, 2025

Reg Type: ADDITION TO ACC. FITTING **Expiry Date:** August 25, 2032

Drawing No. : Table 1** Scope of Fitting Design As Noted

Fitting type: Valves

The registration is conditional on your compliance with the following notes:

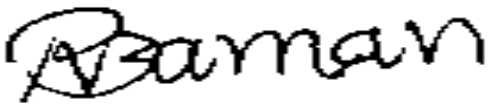
As indicated on AB-41 Statutory Declaration or AB-351 Declaration of Conformity form and submitted documentation, the code of construction is B16.34.

- It is our understanding that the fitting(s), included as the scope of this submission, that is(are) subject to the Safety Codes Act shall comply with the requirements of the indicated Standard or Code of Construction on the AB-41 Statutory Declaration or AB-351 Declaration of Conformity as supported by the attached data which identifies the dimensions, materials of construction, press./temp. ratings and the basis for such ratings, and the identification marking of the fittings.
- This registration is valid only for fittings fabricated at the location(s) covered by the QC certificate attached to the accepted AB-41 Statutory Declaration or AB-351 Declaration of Conformity form.
- This registration is valid only until the indicated expiry date and only if the Manufacturer maintains a valid quality management system approved by an acceptable third-party agency, and maintains a valid Certification of Authorization Permit if required by the jurisdiction where manufacturing takes place, until that date.
- Should the approval of the quality management system lapse before the expiry date indicated above, this registration shall become void.

An invoice covering survey and registration fees will be forwarded from our Revenue Accounts.

If you have any question don't hesitate to contact me by phone at (587) 943-8743 or fax (403) 291-4545 or e-mail Rokanuzzaman@absa.ca.

Sincerely,



ROKANUZZAMAN, MOHAMMAD, P. Eng.
DOP Cert. No. D00010592

STATUTORY DECLARATION
Registration of Fittings
Single or Multiple Fitting Designs within one Fitting Category

In this space, show facsimile of manufacturer's logo or trademark as it will appear on the fitting.

VALVTECHNOLOGIES

I, Jason Woh (name of applicant), Quality Manager (position title) (must be in a position of authority)

of ValvTechnologies (name of manufacturer)

located at 5904 Bingle Road, Houston, Texas, 77092 USA (plant address)

do solemnly declare that the fittings listed hereunder, which are subject to the Safety Codes Act (select only one)

☑ comply with the requirements of ASME B16.34 (title of recognized North American Standard) which specifies the dimensions, materials of construction, pressure/temperature ratings and identification marking of the fittings, or

☐ are not covered by the provisions of a recognized North American standard and are therefore manufactured to comply with _____ (title of code of construction or other applicable document) as supported by the attached data which identifies the dimensions, materials of construction, pressure/temperature ratings and the basis for such ratings, and the identification marking of the fittings.

I further declare that the manufacture of these fittings is controlled by a quality control program which has been verified as described in the below Table as being suitable for the manufacturing of these fittings to the stated standard, regulation, code, guideline or other applicable document. The fittings covered by the declaration for which I seek registration are as provided in the Supplementary Sheet(s) attached.

Quality Program Verification and Manufacturing Sites

A copy of the Quality Certificate from each manufacturing site must be included

Item #	Product Description, Model or Series	Quality Program	Scope of Certification	Expiry Date	Verifying Organization	Location(s) Plant Name and address
1.	V series, Ball Valve	ISO 9001	see attached certificate	2027-01-22	DNV	5904 Bingle Rd Houston, Texas 77092 U
2.						

Tracking #:_____

Alberta Government

ABSA
the pressure equipment safety authority

AB-41 2024-03

In support of this application, the following information, calculations and/or test data are attached:

Genral Assembly Drawing and Brouchure

(Signature of the Declarer) 2025-06-09 (Date)

DECLARED before me at Houston (city) in the State of Texas (province, territory, or state)

this 9th day of June (Month), 2025 (Year)

(print) Maria N. Mercado (a Commissioner of Oaths or Notary Public)

(sign) Maria N. Mercado (a Commissioner of Oaths or Notary Public)

11-21-2026 (expiry date (mm/dd/yy))

MARIA N. MERCADO
Notary Public, State of Texas
Comm. Expires 11-21-2026
Notary ID 131804145

Commissioner of Oaths / Notary Public in and for: Texas (province, territory, or state)

For ABSA Office Use Only:

NOTES:

To the best of my knowledge and belief, the application meets the requirements of the Safety Codes Act and CSA Standard B51, Part 1, Clause 4.2, and is accepted for registration in Category _____.

CRN: _____

Registered Date: _____

Expiry Date: _____

Signature: _____
(Signature of the Administrator/SCO)

The information you provide is necessary only for the administration of the programs as required by the Alberta Safety Codes Act and Regulations in the Pressure Equipment Discipline

2025-03890

ABSA

SAFETY CODES ACT - PROVINCE OF ALBERTA

ACCEPTED: 0C02804.2

See acceptance letter for conditions of registration.

Date: 2025-07-24 By: Baman

MOHAMMAD ROKANUZZAMAN, P. Eng.
DOP: D00010592

This stamp and signature have been affixed electronically to this registered design as required by Section 20(1) of the Pressure Equipment Safety Regulation, in accordance with the Electronic Transactions Act.

Tracking #: _____

Table 1 Scope of Fitting Designs**

Item #	Primary Pressure Bearing / Retaining Component	Material of Construction	Port Connections and Size Range	MDMT	Rated Pressure		Pressure Class(es) / Schedule(s)	Design Code(s) of Construction	Reference Catalogue (pages) or Drawing(s)
					At Ambient Temperature	At Maximum Temperature			
See Attache	Alternative	Table 1							

Table 2 Additional Scope Information

List/Attach Additional Detail and References (Product Configurations, Options, Illustrations, etc.)
Example: Series X Options

** For additional alternatives of Table 1, refer to Form AB-41a, Guide for Completing Form AB-41

Tracking #:_____

Table 1** Scope of Fitting Design

Item #	Primary Pressure Bearing / Retaining Component	Material of Construction	Port Connections and Size Range	MDMT	Rated Pressure (PSI)		Pressure Class(es)/ Schedule(s)	Design Code(s) of Construction	Reference Catalogue (pages) or Drawing(s)
					At Ambient Temperature	At Maximum Temperature			
1	Body, Endcap	A105 A182-F22 A192-F91 A182-F316(H)	SW, BW, NPT 1/4”-4”	-50 F	2220-11110 2250-11250 2250-11250 2160-10800	255- 1285 (1000F) 125- 615 (1200F) 360-1800 (1200F) 125-620 (1500F)	CL 900-4500	ASME B16.34	See Attachment V1-1 Data sheet
		A216 WCB A351 CF8M	Raised face flange 1/2” – 36”		285-1480 275-1440	20-170 (1000F) 15-85 (1500F)	CL 150-600		See Attachment V1-2 Data sheet
		A216 WCB A217 WC9 A351 CF8M	SW, BW 1/2” – 2”		285-1480 290-1500 275-1440	20-170 (1000F) 20-220 (1100F) 15-85 (1500F)	CL 150-600		See Attachment V1-3 Data sheet
		A216 WCB A217 WC9 A351 CF8M	Raised face flange, BW 4”-36”		2220-11110 2250-11250 2160-10800	255- 1285 (1000F) 330 -1645 (1100F) 125 -620 (1500F)	CL 900-4500		See Attachment V1-4 Data sheet

2025-03890

ABSA

SAFETY CODES ACT - PROVINCE OF ALBERTA

ACCEPTED: 0C02804.2

See acceptance letter for conditions of registration.

Date: 2025-07-24 By:

MOHAMMAD ROKANUZZAMAN, P. Eng.
DOP: D00010592

This stamp and signature have been affixed electronically to this registered design as required by Section 20(1) of the Pressure Equipment Safety Regulation, in accordance with the Electronic Transactions Act.

VALVTECHNOLOGIES®

ValvTechnologies'

V1-1 Severe Service Metal Seated Ball Valves

FORGED HIGH-PRESSURE VALVES

Technical Data	
Sizes	1/4 - 4"
Pressure Classes	ASME / ANSI Class 900 - 4500
Temperature Range	-50 up 1500°F (-45 up 815°C)
Materials of Construction	Carbon steel (A105) - standard Alloy steel (F22, F91) - standard Stainless steel (316H) - standard Other materials available upon request
In Compliance	ASME B16.34 PED Nuclear ASME III Class 1, 2 and 3 Nuclear Safety Related - 10CFR50 Appendix B SIL
End Connections	Socketweld, buttweld, NPT - standard Others available upon request
Warranty	Four year zero-leakage guarantee*

CV'S

Valve Nominal Size	Pipe ID	Transition Angle	Bore	Cv Based on Pipe ID	Max Cv of Valve
1/4"	Sch 80 0.302	0°	0.38	5.2	15
3/8"	Sch 80 0.423	7.5°	0.38	12.9	15
1/2"	Sch 160 0.466	10°	0.38	8.5	15
3/4"	Sch XXS 0.434	10°	0.38	9.9	15
1"	Sch XXS 0.599	0°	0.63	44	44
1"	Sch XXS 0.599	10°	0.38	7.5	15
1-1/4"	Sch XXS 0.896	15°	0.63	31	44
1-1/2"	Sch XXS 1.100	15°	0.63	22	44
2"	Sch XXS 1.503	7.5°	1.06	80	136
2"	1.1	5°	0.63	19	44
2-1/2"	Sch XXS 1.771	12.5°	1.06	58	136
3"	Sch XXS 2.300	7°	1.5	162	284
4"	Sch XXS 3.152	15°	1.5	91	284
3"	1.9	15°	1.06	60	143
4"	2.61	15°	1.06	43	143

Since the pipe I.D. and corresponding transition from valve I.D. to pipe I.D. has a critical impact on the Cv of the valve, we have devised the above table. This table gives the Cv based on industry standard pipe and also the maximum Cv of the valve only. For Cv with other pipe I.D. or bore size, consult factory. Cv values are approximate, contact factory for exact Cv values.

PRESSURE / TEMPERATURE RATINGS

A182-F22 (2 1/4 Cr - 1 mo.)*** (Temperature F°)

ANSI Rating	-20 to 100	200	300	400	500	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
900	2250	2250	2185	2115	1995	1815	1765	1705	1595	1525	1460	1350	1160	800	525	330	205	125
1500	3750	3750	3640	3530	3325	3025	2940	2840	2660	2540	2435	2245	1930	1335	875	550	345	205
2250 - 2500	6250	6250	6070	5880	5540	5040	4905	4730	4430	4230	4060	3745	3220	2230	1455	915	570	345
3100	7750	7750	7527	7292	6868	6249	6081	5866	5492	5244	5034	4644	3993	2764	1806	1134	708	426
3500	8750	8750	8498	8233	7753	7055	6865	6623	6200	5920	5683	5243	4508	3120	2040	1280	800	480
4000	10000	10000	9711	9409	8859	8063	7845	7569	7085	6765	6494	5991	5151	3565	2333	1463	915	548
4500	11250	11250	10925	10585	9965	9070	8825	8515	7970	7610	7305	6740	5795	4010	2625	1645	1030	615

A105 (Carbon Steel)** (Temperature F°)

ANSI Rating	-20 to 100	200	300	400	500	600	650	700	750	800	850	900	950	1000
900	2220	2035	1965	1900	1810	1705	1650	1590	1520	1235	955	690	410	255
1500	3705	3395	3270	3170	3015	2840	2745	2665	2535	2055	1595	1150	685	430
2500	6170	5655	5450	5280	5025	4730	4575	4425	4230	3430	2655	1915	1145	715
3100	7652	7014	6760	6548	6230	5866	5675	5486	5244	4252	3294	2377	1418	886
3500	8640	7920	7633	7393	7033	6623	6408	6193	5920	4800	3720	2685	1600	1000
4000	9875	9053	8724	8449	8036	7569	7324	7076	6765	5485	4253	3070	1828	1143
4500	11110	10185	9815	9505	9040	8515	8240	7960	7610	6170	4785	3455	2055	1285

*** per ASME/ANSI B16.34 permissible but not recommended for prolonged usage above 1100°F.

** per ASME/ANSI B16.34 permissible but not recommended for prolonged usage above 800°F.

A182-F316 (316 Stainless Steel) (Temperature F°)

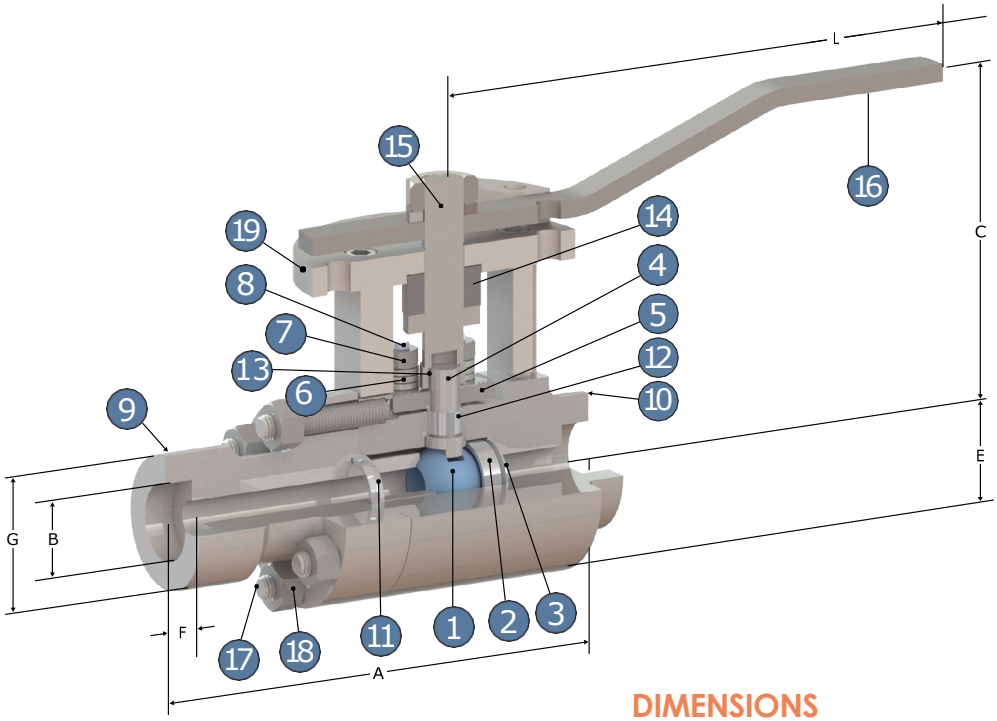
ANSI Rating	-20 to 100	200	300	400	500	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
900	2160	1860	1680	1540	1435	1355	1325	1305	1280	1265	1255	1245	1160	1090	1080	915	710	555	440	350	290	225	175	125
1500	3600	3095	2795	2570	2390	2255	2210	2170	2135	2110	2090	2075	1930	1820	1800	1525	1185	925	735	585	480	380	290	205
2500	6000	5160	4660	4280	3980	3760	3680	3620	3560	3520	3480	3460	3220	3030	3000	2545	1970	1545	1230	970	800	630	485	345
3100	7440	6399	5779	5308	4936	4663	4564	4489	4415	4365	4316	4291	3993	3756	3720	3154	2444	1914	1524	1204	992	780	602	428
3500	8400	7225	6525	5993	5573	5265	5153	5068	4985	4928	4873	4845	4508	4240	4200	3560	2760	2160	1720	1360	1120	880	680	483
4000	9600	8258	7458	6849	6369	6018	5889	5791	5698	5631	5569	5538	5151	4845	4800	4068	3155	2468	1965	1555	1280	1005	778	551
4500	10800	9290	8390	7705	7165	6770	6625	6515	6410	6335	6265	6230	5795	5450	5400	4575	3550	2775	2210	1750	1440	1130	875	620

A182-F91 (9Cr. - 1 Mo.) (Temperature F°)

ANSI Rating	-20 to 100	200	300	400	500	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
900	2250	2250	2185	2115	1995	1815	1765	1705	1595	1525	1460	1350	1160	1090	1080	895	585	360
1500	3750	3750	3640	3530	3325	3025	2940	2840	2660	2540	2435	2245	1930	1820	1800	1490	975	600
2500	6250	6250	6070	5880	5540	5040	4905	4730	4430	4230	4060	3745	3220	3030	3000	2485	1630	1000
3100	7750	7750	7527	7292	6868	6249	6081	5866	5492	5244	5034	4644	3993	3756	3720	3082	2020	1240
3500	8750	8750	8498	8233	7753	7055	6865	6623	6200	5920	5683	5243	4508	4240	4200	3480	2280	1400
4000	10000	10000	9711	9409	8859	8063	7845	7569	7085	6765	6494	5991	5151	4845	4800	3978	2605	1600
4500	11250	11250	10925	10585	9965	9070	8825	8515	7970	7610	7305	6740	5795	5450	5400	4475	2930	1800

Standard/interpolated/special/limited class available - consult factory.
Working pressures are in accordance with ASME/ANSI B16.34-2017. *Power applications.

Pressure-temperature rating are in accordance with ASME/ANSI B16.34-2017



FEATURES

Integral metal seat. Proprietary HVOF RiTech® coating technology ensures the integral seat in ValvTechnologies' valves is resistant to the attack of abrasive magnetite and ferrous oxides.

Body seal ring. Field-proven seal ring technology to ensure sealing under all operating conditions up to 1500°F.

Patented coating process. With surfaces hardness of 68 - 72 Rc, uninterrupted operation and superior wear resistance is assured even in the most severe conditions.

Live-loaded gland area. Featuring a four stud, live-loaded assembly designed for heavy industrial applications. Ensures zero emissions from stem packing in the most severe applications.

True blow-out proof stem. Design utilizes a one-piece, hard-faced, blow-out proof stem that is inserted through the inside of the body cavity eliminating the possibility of blow-out through the gland area.

Absolute zero-leakage. Every valve tested per ANSI procedures, however, we toughen the standard and define zero-leakage as no detectable leakage of gas or a liquid for a period of three minutes or greater. The ValvTechnologies' standard is zero drops and zero bubbles, guaranteed.

DIMENSIONS

V1-1 Butt Weld, Class 900-4500

NPS	A		C		D		E		G	L		Weight lbs.	
	2500	4500	2500	4500	2500	4500	2500	4500	2500	2500	4500	2500	4500
1/2"	5.5	6.75	4.50	4.50	1.94	2.81	1.19	1.31	0.84	7.1	7.1	7.4	10
3/4"	5.5	6.75	4.50	4.50	1.94	2.81	1.19	1.31	1.05	7.1	7.1	7.4	10
1"	8	6.75	5.88	4.50	2.75	2.81	1.75	1.31	1.32	15	7.1	23	10
1-1/4"	8	9.56	5.88	5.88	2.75	3.25	1.75	2.25	1.66	15	15	22	24
1-1/2"	8	9.56	5.88	5.88	2.75	3.25	1.75	2.25	1.90	15	15	23	41
2"	10	9.56	6.68	5.88	3.81	3.25	2.13	2.25	2.38	15	15	32	40
2-1/2"	10	11.16	6.68	6.68	3.81	3.81	2.13	3	2.88	15	16.4	34	53
3"	11.5	11.16	N/A	6.68	4.093	3.81	3.44	3	3.50	N/A	16.4	82	55
4"	11.5	18.00	N/A	6.68	4.093	6.44	3.44	5.13	4.50	N/A	16.4	85	56

V1-1 Socket Weld, Class 900-4500

NPS	A		B	C		D		E		F	G		L		Weight lbs.	
	2500	4500	2500/4500	2500	4500	2500	4500	2500	4500	2500/4500	2500	4500	2500	4500	2500	4500
1/4"	5.5		0.55	4.50		1.94		1.19		0.38	1.50		7.1		7.4	
3/8"	5.5	6.75	0.700	4.50	4.50	1.94	2.81	1.19	1.31	0.38	1.50	2.625	7.1	7.1	7.4	10
1/2"	5.5	6.75	0.85	4.50	4.50	1.94	2.81	1.19	1.31	0.39	1.87	1.80	7.1	7.1	7.4	10
3/4"	5.5	6.75	1.075	4.50	4.50	1.94	2.81	1.19	1.31	0.50	1.87	2.10	7.1	7.1	7.4	10
1"	8	9.56	1.33	5.88	4.50	2.75	3.25	1.75	2.25	0.50	2.30	2.62	15	7.1	23	10
1-1/4"	8	9.56	1.67	5.88	5.88	2.75	3.25	1.75	2.25	0.50	3.50	3.50	15	15	22	24
1-1/2"	8	9.56	1.91	5.88	5.88	2.75	3.25	1.75	2.25	0.50	3.16	4.50	15	15	23	41
2"	10	9.56	2.41	6.68	5.88	3.81	3.25	2.13	2.25	0.63	3.88	4.50	15	15	32	40

All dimensional data is approximate, contact factory for certified dimensions

BILL OF MATERIALS

Item	Description	Material				Qty
		F22 (2 1/4 Cr-1 Mo.) Alloy Steel	A105 CARBON Steel Body Trim	316 STAINLESS Steel Body Trim	F91 (8.75 -0.95Cr-0.22V) Alloy Steel	
1	Ball***	A182 Gr. F6a/HVOF RiTech® 31	A182 Gr. F6a/HVOF RiTech® 31	A182 Gr. F6a/HVOF RiTech® 31	SB-637 N07718	1*
2	Upstream seat	SA-182 Gr. F22 Cl 3/H.F.	SA-182 Gr. F22 Cl 3/H.F.	SA-182 Gr. F316/H.F.	SA-182 Gr. F22 Cl 3/H.F.	1*
3	Belleville® spring	SB-637 N07718	SB-637 N07718	SB-637 N07718	SB-637 N07718	1*
4	Stem	A638 Gr. 660/H.F	A638 Gr. 660/H.F	A638 Gr. 660 /H.F	A638 Gr. 660 /H.F	1
5	Gland	SA-182 Gr. F316/H.F	SA-182 Gr. F316/H.F	SA-182 Gr. F316/H.F	SA-182 Gr. F316/H.F	1
6	Gland load spring	AISI Gr. 302	AISI Gr. 302	AISI Gr. 302	AISI Gr. 302	24
7	Gland nut	SA-194 Gr.8M	SA-194 Gr. 8M	SA-194 Gr. 8M	SA-194 Gr. 8M	4
8	Gland stud	SA-193 Gr. B8M	SA-193 Gr. B8M	SA-193 Gr. B8M	SA-193 Gr. B8M	4
9	End cap/integral seat	SA-182 F22/HVOF RiTech® 31	SA-105/HVOF RiTech® 31	SA-A182 Gr. F316H/HVOF RiTech® 31	SA-182 F91/HVOF RiTech® 31	1*
10	Body	SA-182 F22	SA-105	SA-A182 Gr. F316H	SA-182 F91/HVOF RiTech® 31	1
11	Body seal	SA-564 Type 630 H1150D/PT24	SA-564 Type 630 H1150D/PT24	SA-564 TY pe 630 H1150D/PT24	SB-637 N07718	1*
12	Gland packing	ANSI 316/Grafoil®	ANSI 316/Grafoil®	ANSI 316/Grafoil®	ANSI 316/Grafoil®	1*
13	Key	SA-29 Gr. 1018	SA-29 Gr. 1018	SA-29 Gr. 1018	SA-29 Gr. 1018	2
14	Thrust bearing	A29-1020/H.F.	A29-1020/H.F.	A29-1020/H.F.	A29-1020/H.F.	1
15	Drive sleeve	SA-29 Gr. 4130	SA-29 Gr. 4130	SA-29 Gr. 4130	SA-29 Gr. 4130	1
16	Handle	Steel	Steel	Steel	Steel	1
17	Body stud	SA-193 Gr. B8M	SA-193 Gr. B8M	SA-193 Gr. B8M	SA-193 Gr. B8M	8**
18	Body nut	SA-194 Gr. 8M	SA-194 Gr. 8M	SA-194 Gr. 8M	SA-194 Gr. 8M	8**
19	Stop plate	SA-216 Grade WCB	SA-216 Grade WCB	SA-29 Gr.1020/QPQ	SA-216 Grade WCB	1

* Recommended spare parts **Quantity is 6 for 1/2" through 1 1/2" ***Ball material is Inconel 718 for class 3500# and 4500#

VALVTECHNOLOGIES®

ValvTechnologies'

V1-2 Severe Service Metal Seated Ball Valves

FLANGED BALL VALVES

Technical Data	
Sizes	1/2 - 36"
Pressure Classes	ASME / ANSI Class 150 - 600
Materials of Construction	Carbon steel (A216 WCB) – standard Stainless steel (A351 CF8M) – standard Duplex steel Exotic alloys Other materials available upon request
In Compliance	ASME B16.34 PED Nuclear ASME III Class 1, 2 and 3 Nuclear Safety Related – 10CFR50 Appendix B SIL
End Connections	Raised face flange – standard Other end connections available upon request
Shutoff	Absolute zero-leakage shutoff

BILL OF MATERIALS

Item	Description	Carbon Steel Std. Trim	316 Stainless Steel Std. Trim	Qty
1	Ball	4130/RiTech®31	316 S.S/RiTech®31	1
2	Upstream Seat	4130/H.F.	A182-F316/H.F.	1
3	Belleville® Spring	17-4ph	17-4ph	1
4	Stem	4130/H.F.	316 S.S./H.F.	1
5	Gland	4130/H.F.	316 S.S/H.F.	1
6	Gland Load Spring	302 S.S.	302 S.S.	24
7	Gland Nut	A194 Gr. 8M	A194 Gr. 8M	4
8	Gland Stud	A194 Gr. B8M	A193 Gr. B8M	4
9	End Cap	A216-WCB/RiTech®31	A351 GR CF8M/RiTech®31	1
10	Body	A216-WCB	A351 GR CF8M	1
11	Body Gasket	*Grafoil®	*Grafoil®	1
12	Gland Packing	Grafoil®/316 S.S.	Grafoil®/316 S.S.	3
13	Body Stud	A193 Gr. B7	A193 Gr. B8M	8
14	Body Nut	A194 Gr. 2H	A194 Gr. 8M	8

* For ball sizes below 3", the body gasket is a pressure seal metal gasket.
** B3 = 150#, B5 = 300#, B6 = 600# RP = Reduced Port; FP = Full Port

FULL PORT DIMENSIONS (ANSI 150/300/600)

Size	A			B			C			D			E(RF)			Stem Diameter	Approximate Weights			Cv
Pressure Class	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	All Classes	150	300	600	All Classes
1/2	0.63	0.63	0.63	3.50	3.75	3.75	1.38	1.38	1.38	2.00	2.00	2.00	4.25	5.50	6.50	0.50	8	10	14	2
3/4	0.63	0.63	0.63	3.88	4.62	4.62	1.38	1.38	1.38	2.00	2.00	2.00	4.62	6.00	7.50	0.50	9	12	19	28
1	1.06	1.06	1.06	4.25	4.88	4.88	1.88	1.88	1.88	2.90	2.90	2.90	5.00	6.50	8.50	0.75	14	19	25	130
1-1/2	1.50	1.50	1.50	5.00	6.12	6.12	2.16	2.095	2.25	2.90	2.90	2.90	6.50	7.50	9.50	1.00[1]	17	22	30	270
2	2.13	2.13	2.13	6.00	6.50	6.50	2.75	3.38	3.38	5.00	5.00	5.00	7.00	8.50	11.50	1.50[2]	28	31	40	570
3	3.06	3.06	3.06	7.50	8.25	8.25	4.00	4.00	4.00	7.25	7.25	7.25	8.00	11.12	14.00	1.50	95	110	195	1300
4	4.06	4.06	4.06	9.00	10.00	10.75	4.50	4.50	4.50	9.00	9.00	9.00	9.00	12.00	17.00	2.00	140	170	280	2500
6	6.06	6.06	6.06	11.00	12.50	14.00	6.00	6.00	6.30	12.80	12.80	12.80	15.50	15.88	22.00	2.50	410	450	670	5550
8	8.06	8.06	8.06	13.50	15.00	16.50	8.00	8.00	8.50	17.50	17.50	17.50	18.00	19.75	26.00	3.50	690	770	1050	10400
10	10.06	10.06	10.06	16.00	17.50	20.00	10.3	10.30	10.30	19.43	19.43	19.43	21.00	22.38	31.00	4.00	1060	1150	1840	16600
12	12.06	12.06	12.06	19.00	20.50	22.00	12.5	12.50	13.00	22.00	22.00	22.00	24.00	25.50	33.00	5.00	1840	1980	2650	24300
14	12.06	12.06	12.06	21.00	23.00	23.75	12.5	11.75	11.75	22.00	22.00	22.00	27.00	30.00	35.00	5.00	2180	2140	2910	18000
16	15.25	15.25	15.25	23.50	25.50	27.00	14.5	14.50	15.25	30.50	30.50	30.50	30.00	33.00	39.00	7.00	3350	3500	4800	39700

Note: Cv values are based upon Class 150 valves with a Sch. 40 Pipe ID. Consult factory for other configurations.
Note 1: 150# stem diameter is 0.75
Note 2: 150# stem diameter is 1.00

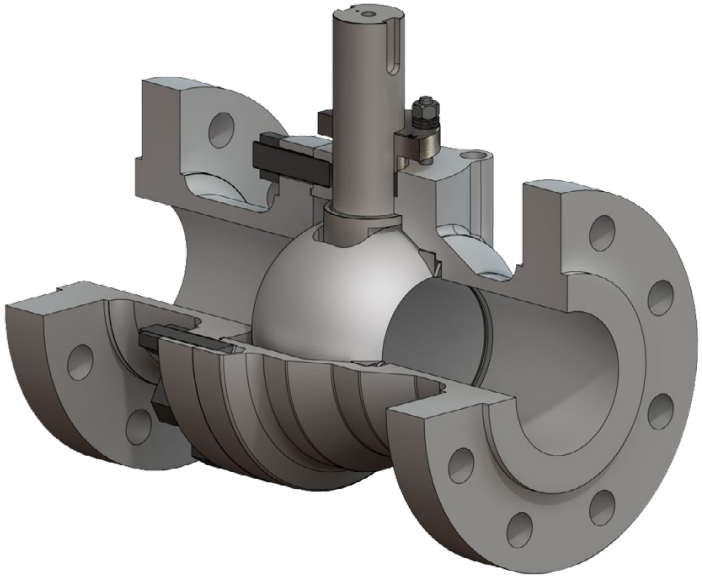
REDUCED PORT DIMENSIONS (ANSI 150/300/600)

Size	A			B			C			D			E(RF)			Stem Diameter	Approximate Weights			Cv	
Pressure Class	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	All Classes	150	300	600	150	300 & 600
1	0.63	0.63	0.63	4.25	4.88	4.88	1.25	1.25	1.25	2.00	2.00	2.00	5.00	6.50	8.50	0.50	10	14	22	19	19
1-1/2	1.06	1.06	1.06	5.00	6.12	6.12	1.88	1.88	1.88	3.00	3.00	3.00	6.50	7.50	9.50	0.75	15	20	28	65	65
2	1.50	1.50	1.50	6.00	6.50	6.50	2.13	2.13	2.13	3.75	3.75	3.75	7.00	8.50	11.50	1.00[1]	25	29	40	160	160
3	2.13	2.13	2.13	7.50	8.25	8.25	3.38	3.38	3.38	5.00	5.00	5.00	8.00	11.12	14.00	1.50[2]	35	41	65	210	210
4	3.06	3.06	3.06	9.00	10.00	10.75	4.00	4.00	4.00	7.25	7.25	7.25	9.00	12.00	17.00	1.50	100	125	140	500	500
6	4.06	4.06	4.06	11.00	12.5	14.00	4.50	4.50	4.50	9.00	9.00	9.00	10.50	15.88	22.00	2.00	180	215	255	750	750
8	5.13	6.06	6.06	13.50	15.00	16.50	5.38	6.00	6.50	11.17	12.80	12.80	11.50	19.75	26.00	2.50	360	610	760	1150	2000
10	7.13	8.06	8.06	16.00	17.50	20.00	7.94	8.00	8.50	17.50	17.50	17.50	13.00	18.00	31.00	3.50*	480	1160	1490	2250	4000
12	8.06	10.06	10.06	19.00	20.50	22.00	8.00	10.30	10.30	19.43	19.43	19.43	14.00	19.75	33.00	4.00*	890	1790	2450	2800	7600
14	10.06	10.06	10.06	21.00	23.00	23.75	10.30	10.30	10.30	19.43	19.43	19.43	15.00	30.00	35.00	4.00	1410	2300	2950	5500	5500
16	10.06	12.06	12.06	23.50	25.50	27.00	10.30	12.50	13.00	22.00	22.00	22.00	16.00	33.00	39.00	5.00*	1740	2550	3300	4400	10900

Note: Cv values are based upon a Sch. 40 Pipe ID. Consult factory for other configurations.

AVAILABLE BODY OPTIONS

Bi-directional sealing
Control trim
Special end connections
Special hard coatings
Various materials of construction
Sizes up to 36"
Elevated temperature options
Wafer style
Forged steel construction



FEATURES

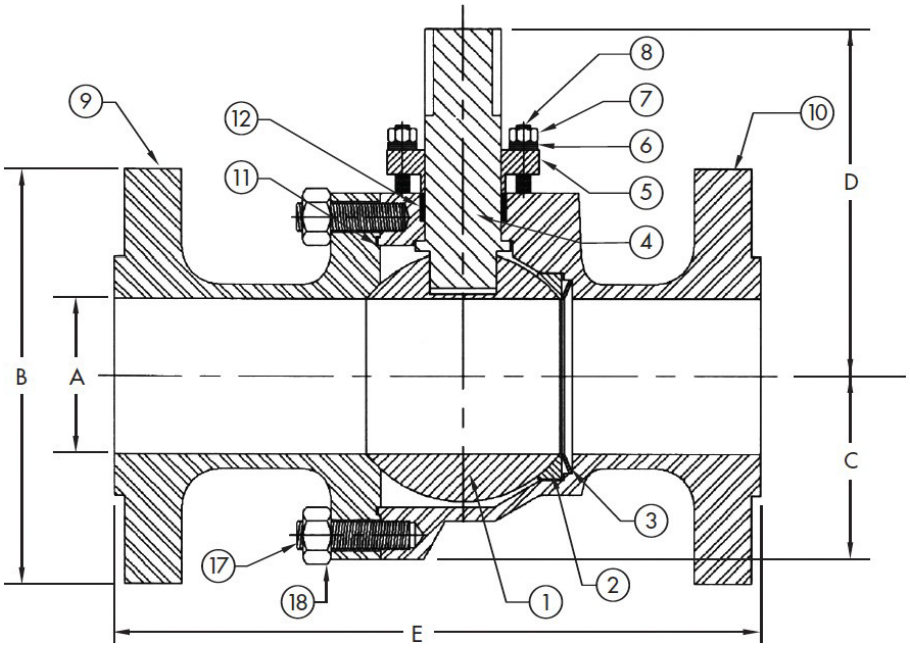
Integral metal seat. With our proprietary HVOF RiTech® coating technology, the integral seat in ValvTechnologies' valves is resistant to the attack of abrasive magnetite and ferrous oxides that may be seen in the steam flow.

Body seal ring. ValvTechnologies employs a field-proven seal ring technology to ensure sealing under all operating conditions, up to 1400°F. The body seal ring is loaded at a pressure higher than 20,000 psi. In addition, valves sized 3"and above contain a secondary Grafoil® seal to further guarantee reliability.

Patented coating process. The sealing surfaces are overlaid with tungsten or chromium carbide using our exclusive HVOF RiTech® process. These surfaces have a hardness of 68 – 72 Rc to allow long periods of operation in the most severe conditions.

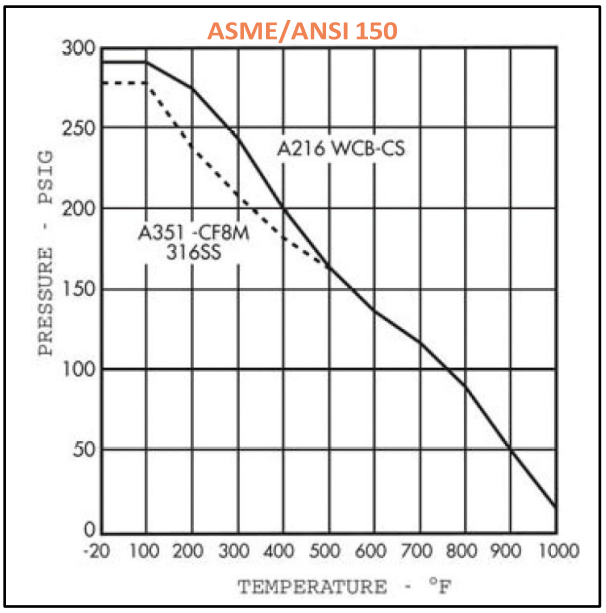
Live-loaded gland area. The V Series' sealing design features a four stud, live-loaded assembly designed for heavy industrial applications. The sealing mate- rial is high purity Grafoil® surrounded by stainless steel wire mesh anti-extru- sion rings. The six Belleville® springs (per stud) provide constant load pressure through extreme thermal shocks and prevent wear leaks in high-cycle service.

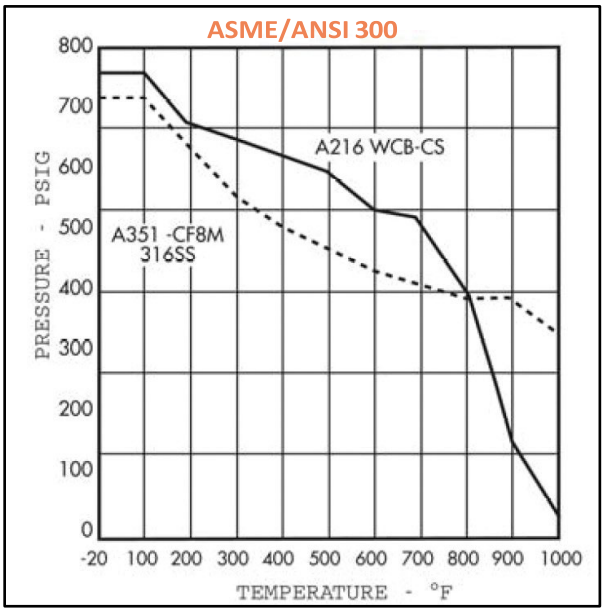
Blow-out proof stem. The design utilizes a one piece, hard-faced, blow-out proof stem that is inserted through the inside of the body cavity eliminating the possibility of blow-out through the gland area.

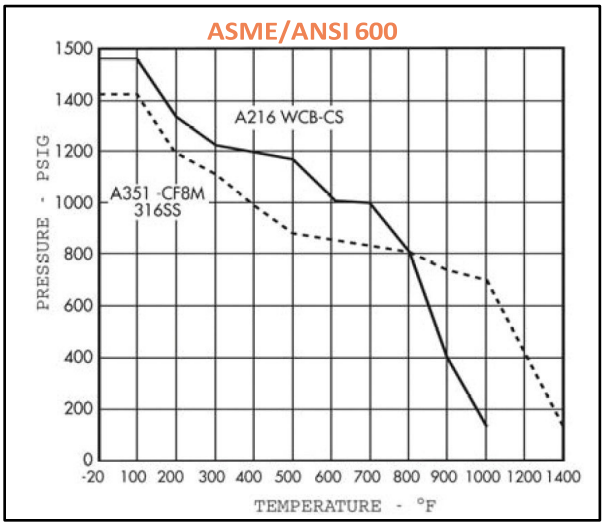


Pressure-temperature ratings are in accordance with ASME/ANSI B16.34 – 2017.

PRESSURE/TEMPERATURE RATINGS







VALVTECHNOLOGIES®

ValvTechnologies'

V1-3 Severe Service Metal Seated Ball Valves

INVESTMENT CAST BALL VALVES

Technical Data	
Sizes	1/2 - 2"
Pressure Classes	ASME / ANSI Class 150 - 600
Materials of Construction	Carbon steel (A216 WCB) – standard Alloy steel (A217 WC9) – standard Stainless steel (A351 CF8M) – standard Duplex steel Exotic alloys Other materials available upon request
In Compliance	ASME B16.34 PED Nuclear ASME III Class 1, 2 and 3 Nuclear Safety Related - 10CFR50 Appendix B SIL
End Connections	Socketweld - standard Buttweld - standard Others available upon request
Shutoff	Absolute zero-leakage shutoff

BILL OF MATERIALS

Item	Description	A105 Carbon Steel Body Trim	316 Stainless Steel Body Trim	F22 (2 1/4 Cr-1 Mo.) Alloy Steel	Qty
1	Ball	A182-F316 / HVOF RiTech® 31	A182-F316 / HVOF RiTech® 31	410S.S. / HVOF RiTech® 31	1
2	Upstream Seat	A182-F316 / H.F.	A182-F316 / H.F.	A182-F316/H.F.	1
3	Belleville® Spring	Inconel 718	Inconel 718	Inconel 718	1
4	Stem	316 S.S.	316 S.S.	316 S.S.	1
5	Gland	A182-F22 / H.F.	A182-F22 / H.F.	A182-F22 / H.F.	1
6	Gland Load Spring	302 S.S.	302 S.S.	302 S.S.	24
7	Gland Nut	A194 Gr. 8M	A194 Gr. 8M	A194 Gr. 8M	4
8	Gland Stud	A193 Gr. B8M	A193 Gr. B8M	A193 Gr. B8M	4
9	End Cap / Integral Seat	A105 / HVOF RiTech® 31	A182 -F316/HVOF RiTech® 31	A182 -F22 / HVOF RiTech® 31	1
10	Body	A216-WCB	A351 GR CF8M	A217-WC9	1
11	Body Gasket	17-4	17-4	17-4	1
12	Gland Packing	316 S.S. / Grafoil®	316 S.S./Grafoil®	316 S.S. / Grafoil®	1
13	Key	Steel	Steel	Steel	2
15	Drive Sleeve	4130	4130	4130	1
16	Handle	Steel	Steel	Steel	1
17	Body Stud	A193 Gr. B8M	A193 Gr. B8M	A193 Gr. B8M	4**
18	Body Nut	A194 Gr. 8M	A194 Gr. 8M	A194 Gr. 8M	4**

** Quantity is 6 for 1-1/8" Ball
Consult factory for other material options. Also available with NPT ENDS - consult factory.

BUTT WELD ENDS

Size	A	B	C	D	F	G	J	Stem Diameter	Approximate Weight	Cv
1/2	6.31	4.59	1.38	3.75	7.13	0.63	0.84	.50	9 lb	42
3/4	6.00	4.59	1.38	3.41	7.13	0.63	1.05	.50	9 lb	30
1	6.31	4.59	1.38	3.75	7.13	0.63	1.33	.50	10 lb	20
1	7.75	5.66	1.88	4.06	15.00	1.06	1.33	.75	21 lb	130
1 1/2	7.75	5.66	1.88	4.06	15.00	1.06	1.90	.75	24 lb	55
2	7.78	5.66	1.88	4.06	15.00	1.06	2.38	.75	27 lb	50

SOCKET WELD ENDS

Size	A	B	C	D	E	F	G	H	J	Stem Diameter	Approximate Weight	Cv
1/2	6.31	4.59	1.38	3.75	0.86	7.12	0.63	.38	1.33	.50	9 lb	42
3/4	6.31	4.59	1.38	3.75	1.07	7.12	0.63	.50	1.47	.50	10 lb	42
1	6.31	4.59	1.38	3.75	1.33	7.12	0.63	.50	1.88	.50	10 lb	20
1	7.75	5.66	1.88	4.06	1.33	15.00	1.06	.50	2.40	.75	21 lb	130
1 1/2	7.75	5.66	1.88	4.06	1.93	15.00	1.06	.50	2.40	.75	24 lb	60
1 1/2	9.50	6.31	2.25	4.97	1.93	18.00*	1.50	.50	2.97	.75	30 lb	270
2	7.78	5.66	1.88	4.06	2.40	15.00	1.06	.62	2.94	.75	35 lb	50
2	9.50	6.31	2.25	4.97	2.40	18.00*	1.50	.62	2.97	.75	35 lb	135
2	11.50	7.25	2.88	5.00	2.40	18.00*	2.13	.69	3.25	1	80 lb	570

* Symmetric about stem centerline
** Cv is based on actual bore, G

AVAILABLE BODY OPTIONS

Bi-directional sealing
Titanium
Inconel Monel
Nickel
Duplex Stainless Steel
347 Stainless Steel
5 Chrome
9 Chrome
WCB
Hastelloy

FEATURES

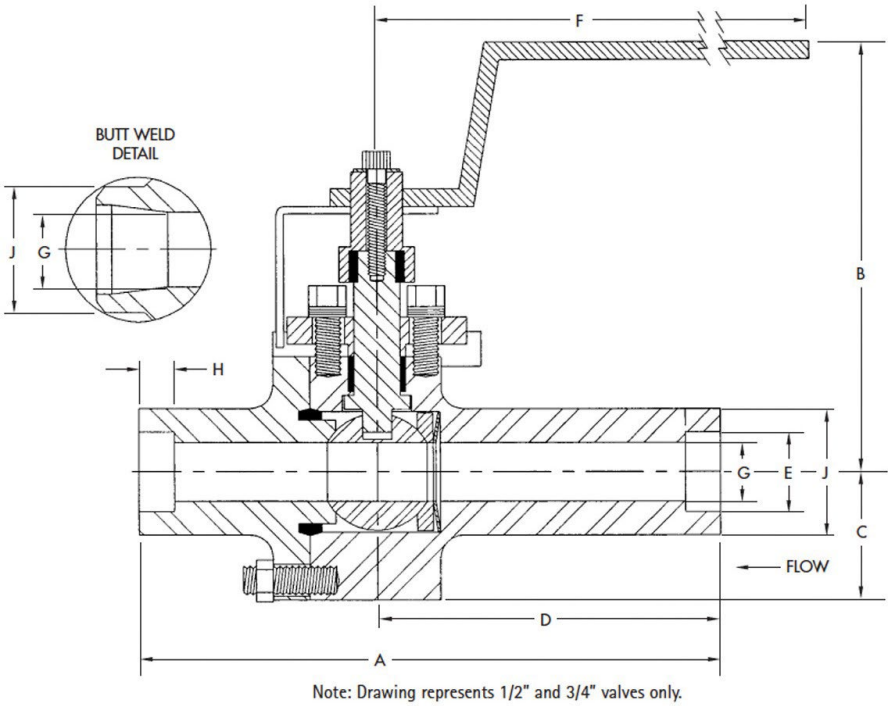
Integral metal seat. With our proprietary HVOF RiTech® coating technology, the integral seat in ValvTechnologies' valves is resistant to the attack of abrasive magnetite and ferrous oxides that may be seen in the steam flow.

Body seal ring. ValvTechnologies employs a field proven seal ring technology to ensure sealing under all operating conditions, up to 1400°F. The body seal ring is loaded at a pressure higher than 20,000 psi. In addition, valves sized 3" and above contain a secondary Grafoil® seal to further guarantee reliability.

Patented coating process. The sealing surfaces are overlaid with tungsten or chromium carbide using our exclusive HVOF RiTech® process. These surfaces have a hardness of 68 – 72 Rc to allow long periods of operation in the most severe conditions.

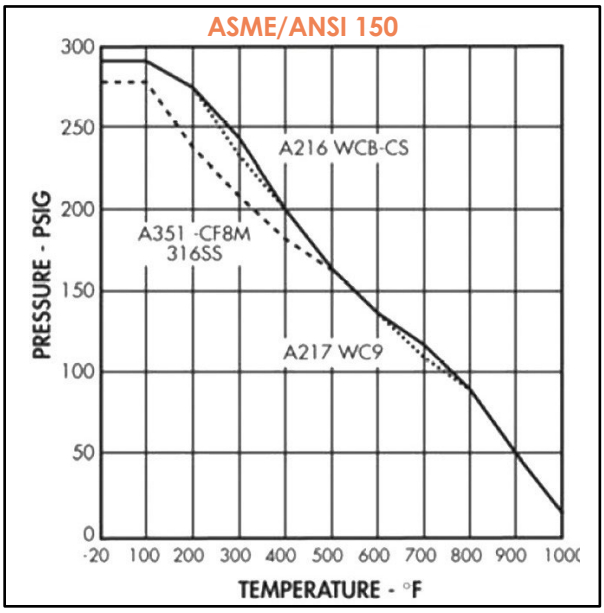
Live-loaded gland area. The V Series' sealing design features a four stud, live-loaded assembly designed for heavy industrial applications. The sealing material is high purity Grafoil® sur- rounded by stainless steel wire mesh anti-extrusion rings. The six Belleville® springs (per stud) provide constant load pressure through extreme thermal shocks and prevent wear leaks in high- cycle service.

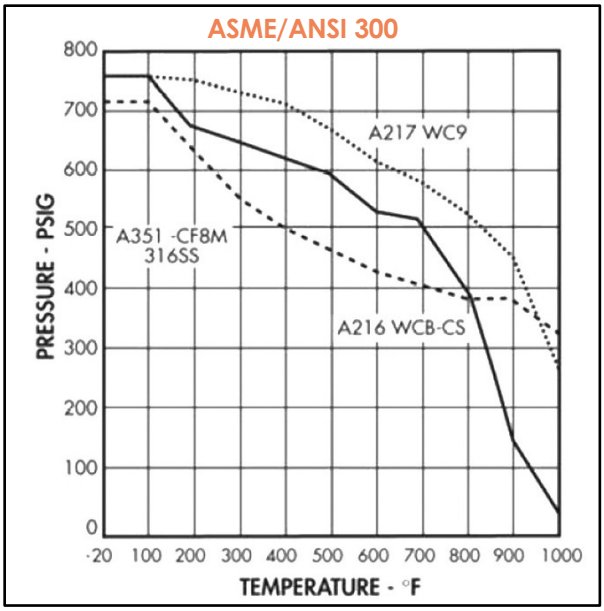
Blow-out proof stem. The design utilizes a one piece, hard-faced, blow-out proof stem that is inserted through the inside of the body cavity eliminating the possibility of blow-out through the gland area.

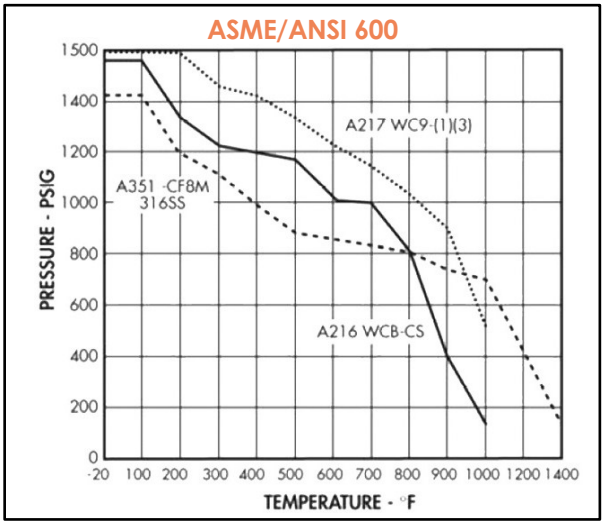


Note: Drawing represents 1/2" and 3/4" valves only.

PRESSURE/TEMPERATURE RATINGS







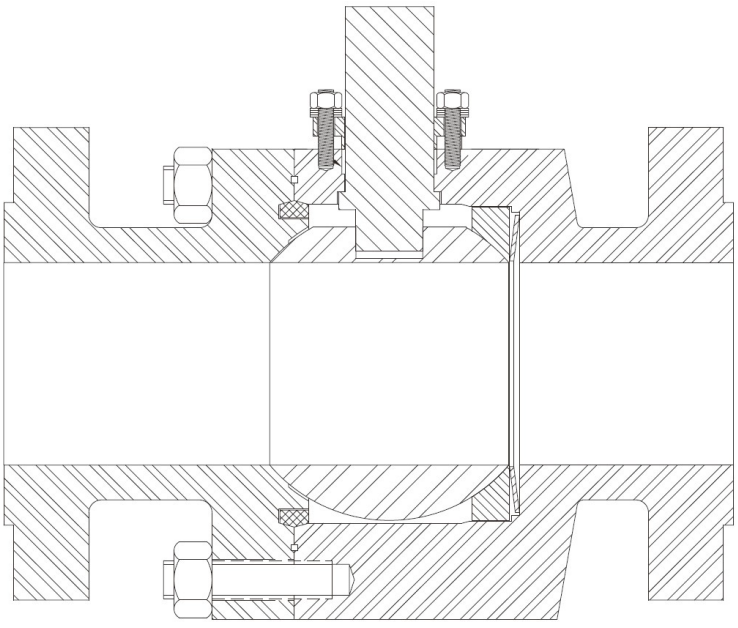
Pressure-temperature ratings are in accordance with ASME/ANSI B16.34 - 2017

ValvTechnologies'

V1-4 Severe Service Metal Seated Ball Valves

HIGH-PRESSURE LARGE BORE VALVES

Technical Data	
Sizes	4 - 36"
Pressure Classes	ASME / ANSI Class 900 - 4500
Materials of Construction	Carbon steel (A216 WCB) – standard Alloy steel (A217 WC9) – standard Stainless steel (A351 CF8M) – standard Duplex steel Exotic alloys Other materials available upon request
In Compliance	ASME B16.34 PED Nuclear ASME III Class 1, 2 and 3 Nuclear Safety Related - 10CFR50 Appendix B SIL
End Connections	Raised face flange – standard Buttweld - standard Other end connections available upon request
Shutoff	Absolute zero-leakage shutoff



FEATURES

The V1-4 category extends our core design concepts to large diameter and higher-pressure applications. This valve is designed for critical isolation applications in the mining and minerals processing, power, hydrocarbon refining and processing, oil and gas production and other industries. The V1-4 is available in ANSI pressure classes 900 - 4500, in sizes 4" - 36" and in virtually any material with pressure containing parts made exclusively from forgings. Standard end connections are butt weld and flanged or valves can be custom-designed to include special end connections as well as purge ports, cavity fillers, fugitive emission bonnets, abrasion resistant linings and many other process-specific options.

Integral metal seat. With our proprietary HVOF RiTech® coating technology, the integral seat in ValvTechnologies' valves is resistant to the attack of abrasive magnetite and ferrous oxides that may be seen in the steam flow.

Body seal ring. ValvTechnologies employs a field-proven seal ring technology to ensure sealing under all operating conditions, up to 1400°F. The body seal ring is loaded at a pressure higher than 20,000 psi. In addition, valves sized 3"and above contain a secondary Grafoil® seal to further guarantee reliability.

Patented coating process. The sealing surfaces are overlaid with tungsten or chromium carbide using our exclusive HVOF RiTech® process. These surfaces have a hardness of 68 – 72 Rc to allow long periods of operation in the most severe conditions.

Live-loaded gland area. The V Series' sealing design features a four stud, live-loaded assembly designed for heavy industrial applications. The sealing material is high purity Grafoil® surrounded by stainless steel wire mesh anti-extrusion rings. The six Belleville® springs (per stud) provide constant load pressure through extreme thermal shocks and prevent wear leaks in high-cycle service.

Blow-out proof stem. The design utilizes a one piece, hard-faced, blow-out proof stem that is inserted through the inside of the body cavity eliminating the possibility of blow-out through the gland area.

FULL PORT DIMENSIONS (ANSI 900/1500/2500)

Size	900 Class			1500 Class			2500 Class		
	Bore	Face to Face	Flange OD	Bore	Face to Face	Flange OD	Bore	Face to Face	Flange OD
4”	3.50	18.00	11.50	3.50	21.50	12.25	3.50	26.50	14.00
6”	5.13	24.00	15.00	5.13	27.75	15.50	3.50	36.00	19.00
8”	7.13	29.00	18.50	6.06	32.75	19.50	5.13	40.25	21.75
10”	8.06	33.00	21.50	8.06	39.00	23.00	7.13	50.00	26.50
12”	10.06	38.00	24.00	10.06	44.50	26.50	8.06	56.00	30.00
14”	12.06	40.50	25.25	10.06	49.50	29.50	-	-	-
16”	13.25	44.50	27.75	12.06	54.50	32.50	-	-	-
18”	15.25	48.00	31.00	13.25	60.50	36.00	-	-	-
20”	17.25	52.00	33.75	15.25	65.50	38.75	-	-	-
22”	19.25	56.50	37.50	-	-	-	-	-	-
24”	19.25	61.00	41.00	19.25	76.50	46.00	-	-	-
26”	21.25	65.50	42.75	-	-	-	-	-	-
28”	23.25	70.00	46.00	-	-	-	-	-	-
30”	25.25	74.50	48.50	-	-	-	-	-	-
32”	27.25	79.00	51.75	-	-	-	-	-	-
34”	29.25	83.50	55.00	-	-	-	-	-	-
36”	31.25	88.00	57.50	-	-	-	-	-	-

NOTE: Other bore sizes are available, please consult with factory.

STANDARD PORT DIMENSIONS (ANSI 900/1500/2500)

Size	900 Class			1500 Class			2500 Class		
	Bore	Face to Face	Flange OD	Bore	Face to Face	Flange OD	Bore	Face to Face	Flange OD
4”	2.13	18.00	11.50	2.13	21.50	12.25	2.13	26.50	14.00
6”	3.50	24.00	15.00	3.50	27.75	15.50	2.13	36.00	19.00
8”	5.13	29.00	18.50	5.13	32.75	19.50	3.50	40.25	21.75
10”	7.13	33.00	21.50	7.13	39.00	23.00	6.06	50.00	26.50
12”	8.06	38.00	24.00	8.06	44.50	26.50	7.13	56.00	30.00
14”	8.06	40.50	25.25	8.06	49.50	29.50	-	-	-
16”	10.06	44.50	27.75	10.06	54.50	32.50	-	-	-
18”	12.06	48.00	31.00	12.06	60.50	36.00	-	-	-
20”	13.25	52.00	33.75	12.06	65.50	38.75	-	-	-
22”	15.25	56.50	37.50	-	-	-	-	-	-
24”	17.25	61.00	41.00	15.25	76.50	46.00	-	-	-
26”	19.25	65.50	42.75	-	-	-	-	-	-
28”	19.25	70.00	46.00	-	-	-	-	-	-
30”	21.25	74.50	48.50	-	-	-	-	-	-
32”	23.25	79.00	51.75	-	-	-	-	-	-
34”	25.25	83.50	55.00	-	-	-	-	-	-
36”	27.25	88.00	57.50	-	-	-	-	-	-

NOTE: Other bore sizes are available, please consult with factory.

Pressure-temperature ratings are in accordance with ASME/ANSI B16.34 - 2017