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	1.25	1.25	1.25	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	1.25	1.25	1.25	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	1.88	1.88	1.88	2.90	2.90	2.90	6.50	7.50	9.50	0.75	17	22	30	270
2	2.13	2.13	2.13	6.00	6.50	6.50	3.38	3.38	3.38	5.00	5.00	5.00	7.00	8.50	11.50	1.00	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	6.50	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	12.50	13.00	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.

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	0.75	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	1.00	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	7.13	8.00	8.50	13.50	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

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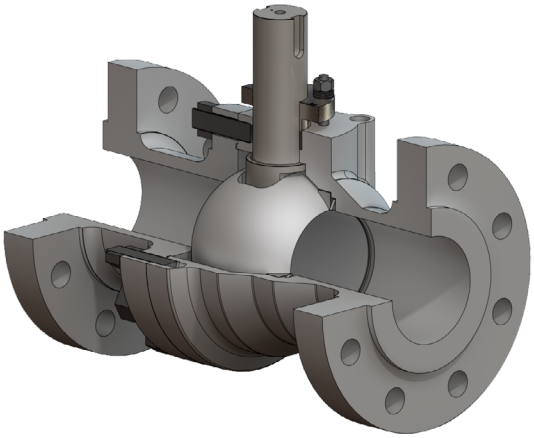


FEATURES

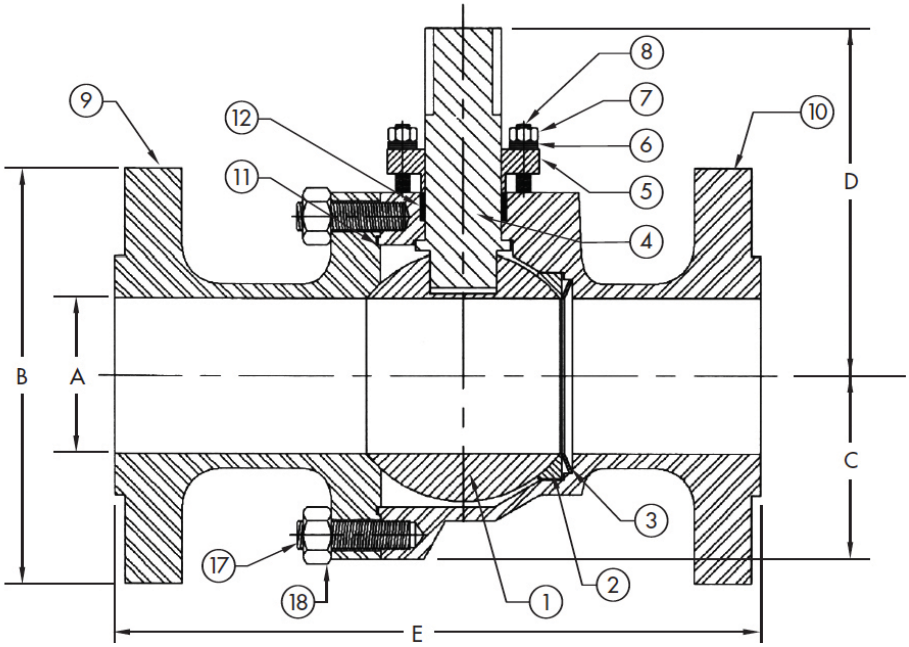
Integral metal seat. With our proprietary HVOF RiTech® coating technology, the integral seat in ValvTechnologies' valves is resistant to the attack of abrasive magnetite and ferrous oxides that may be seen in the steam flow.

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.

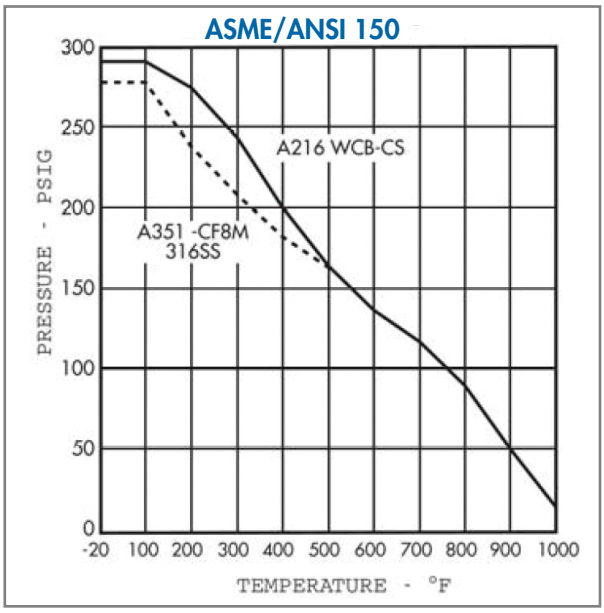
Live-loaded gland area. The V Series' sealing design features a four stud, live-loaded assembly designed for heavy industrial applications. The sealing material is high purity Grafoil® surrounded by stainless steel wire mesh anti-extrusion rings. The six Belleville® springs (per stud) provide constant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

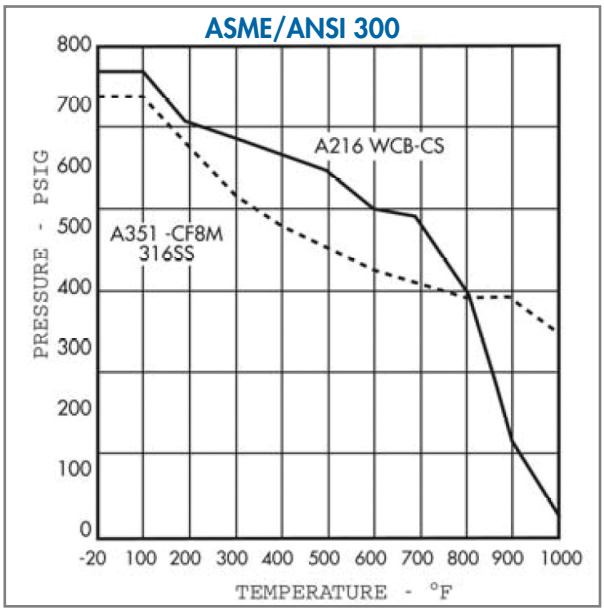
Blow-out proof stem. The design utilizes a one piece, hard-faced, blow-out proof stem that is inserted through the inside of the body cavity eliminating the possibility of blow-out through the gland area.

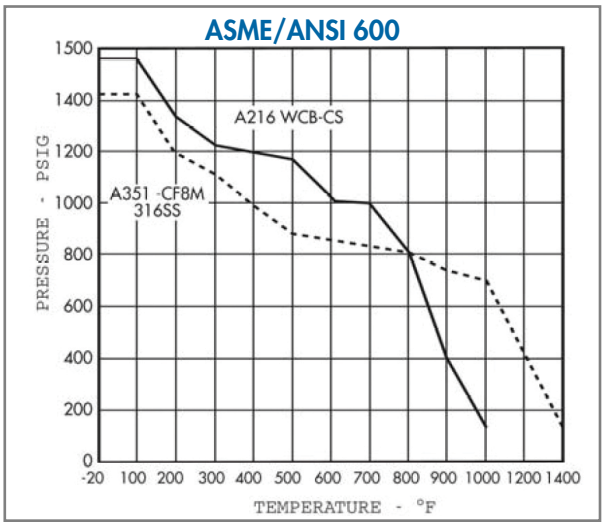


Pressure-temperature ratings are in accordance with ASME/ANSI B16.34 - 2017

PRESSURE/TEMPERATURE RATINGS







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