

AVCO

Alloy Valves and Control

TRUNNION BALL VALVES 1200 SERIES



Size

2" - 28" (Full Port)
Fire Safe as Standard

End Connections

150# RF Flanged
300# RF Flanged
600# RF Flanged
900# RF Flanged
1500# RF Flanged
Butt Weld

Valve Materials

304/304L/316/316L Stainless Steel
Carbon Steel
Low Temp. Carbon Steel

Ball and Stem Materials

304/304L/316/316L Stainless Steel
Nickel Plated Carbon Steel

Seat Materials

Teflon
Nylon
PEEK
Devlon
Metal

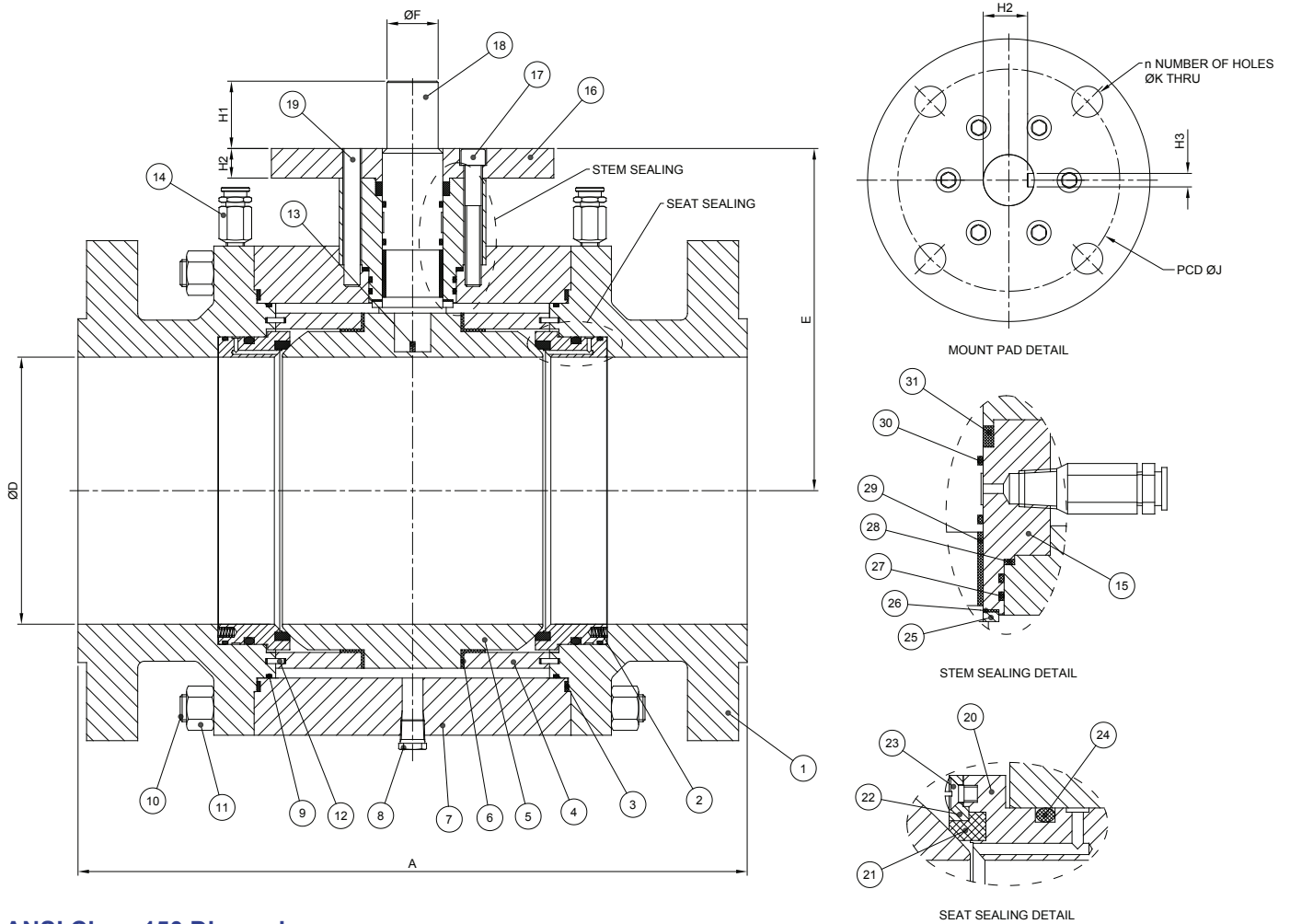
Service Applications

Chemical
Food Processing
Oxygen
Steam
Thermal Fluids
Vacuum
Water/Oil/Gas

Applicable Standards

ASME B16.34
ASME B16.10
ASME B16.5
API 607/API 6FA
API 6D

Alloy Valves and Control



ANSI Class 150 Dimensions

SIZE	A (mm)		D (mm)	E (mm)	F (mm)	H1 (mm)	H2 (mm)	H3 (mm)	J (mm)	K (mm)	n	ISO 5211	Weight (kg)	TORQUE (N.m)	CV
	RF Flanged	Butt Weld													
2"	178	216	49	110	20	35	16.5	6	102	11	4	F10	15	42	500
2 1/2"	191	241	62	115	24	40	20	8	102	11	4	F10	18	65	1050
3"	203	283	74	125	24	40	20	8	125	14	4	F12	28	100	1300
4"	229	305	100	155	32	45	24	10	125	14	4	F12	44	165	2300
6"	394	457	150	235	42	60	37	12	165	23	4	F16	160	380	5400
8"	457	521	201	275	48	65	42.5	14	165	23	4	F16	346	640	10000
10"	533	559	252	315	48	65	42.5	14	165	23	4	F16	340	1150	17800
12"	610	635	303	350	55	70	49	16	165	23	4	F16	529	1650	26000
14"	686	762	335	380	60	75	53	18	254	19	8	F25	595	2650	32000
16"	762	838	385	430	75	95	67.5	20	254	19	8	F25	890	3350	44000
18"	864	914	436	465	75	95	67.5	20	254	19	8	F25	1350	5100	58000
20"	914	991	487	510	80	100	71	22	254	19	8	F25	1680	6400	75000
24"	1067	1143	589	600	95	130	86	25	298	23	8	F30	3650	11500	111200
28"	1245	1346	684	695	115	140	104	32	356	33	8	F35	5100	17000	143000

Alloy Valves and Control

ANSI Class 300 Dimensions

SIZE	A (mm)		D (mm)	E (mm)	F (mm)	H1 (mm)	H2 (mm)	H3 (mm)	J (mm)	K (mm)	n	ISO 5211	Weight (kg)	TORQUE (N.m)	CV
	RF Flanged	Butt Weld													
2"	216	216	49	110	20	35	16.5	6	102	11	4	F10	17	80	470
2 1/2"	241	241	62	115	24	40	20	8	102	11	4	F10	26	120	850
3"	283	283	74	125	24	40	20	8	125	14	4	F12	33	210	1100
4"	305	305	100	170	32	45	24	10	125	14	4	F12	60	260	2200
6"	403	457	150	220	42	60	37	12	165	23	4	F16	160	620	5400
8"	502	521	201	275	48	65	42.5	14	165	23	4	F16	265	1050	10000
10"	568	559	252	305	48	65	42.5	14	165	23	4	F16	390	1850	17100
12"	648	635	303	360	55	70	49	16	254	19	8	F25	560	2350	25000
14"	762	762	335	400	60	75	53	18	254	19	8	F25	670	3300	31000
16"	838	838	385	440	75	95	67.5	20	254	19	8	F25	1080	4800	42000
18"	914	914	436	485	75	95	67.5	20	254	19	8	F25	1610	6800	56000
20"	991	991	487	530	80	100	71	22	254	19	8	F25	2210	8350	72000
24"	1143	1143	589	625	95	130	86	25	298	23	8	F30	4435	15500	102000
28"	1346	1346	684	695	115	140	104	32	356	33	8	F35	5600	23000	123000

ANSI Class 600 Dimensions

SIZE	A (mm)		D (mm)	E (mm)	F (mm)	H1 (mm)	H2 (mm)	H3 (mm)	J (mm)	K (mm)	n	ISO 5211	Weight (kg)	TORQUE (N.m)	CV
	RF Flanged/ Butt Weld	RTJ Flanged													
2"	292	295	49	110	28	40	24	8	102	11	4	F10	40	165	400
2 1/2"	330	333	62	135	32	45	24	10	125	14	4	F12	47	300	875
3"	356	359	74	155	32	45	24	10	125	14	4	F12	70	430	1000
4"	432	435	100	185	38	55	33	10	165	23	4	F16	110	600	1800
6"	559	562	150	258	48	65	42.5	14	165	23	4	F16	245	1550	4500
8"	660	664	201	306	55	75	49	16	254	19	8	F25	480	2470	8900
10"	787	791	252	365	65	75	58	18	254	19	8	F25	760	3850	14500
12"	838	841	303	390	70	90	67.5	20	254	19	8	F25	1010	5800	22000
14"	889	892	335	406	75	95	67.5	20	254	19	8	F25	1850	8550	28000
16"	991	994	385	485	85	110	71	22	254	19	8	F25	2100	9400	39000
20"	1194	1200	487	560	95	130	86	25	356	33	8	F35	3360	18500	66000
24"	1397	1407	589	660	115	140	104	32	356	33	8	F35	5650	30500	92000
28"	1549	1562	684	710	135	170	123	36	406	39	8	F40	7000	45000	122000

Alloy Valves and Control

ANSI Class 900 Dimensions

SIZE	A (mm)		D (mm)	E (mm)	F (mm)	H1 (mm)	H2 (mm)	H3 (mm)	J (mm)	K (mm)	n	ISO 5211	Weight (kg)	TORQUE (N.m)	CV
	RF Flanged/ Butt Weld	RTJ Flanged													
2"	368	371	49	125	28	45	24	8	125	14	4	F12	55	195	360
2 1/2"	419	422	62	150	32	50	24	10	125	14	4	F12	65	380	750
3"	381	384	74	165	32	50	24	10	125	14	4	F12	90	550	1000
4"	457	460	100	190	42	60	37	12	165	23	4	F16	180	950	1800
6"	610	613	150	258	48	65	42.5	14	165	23	4	F16	290	2150	4300
8"	737	740	201	315	60	75	53	18	254	19	8	F25	600	3500	8400
10"	838	841	252	375	70	90	67.5	20	254	19	8	F25	990	7100	14000
12"	965	968	303	405	80	100	71	22	298	23	8	F30	1065	9620	21000
14"	1029	1038	322	440	95	130	86	25	298	23	8	F30	1406	16000	26000
16"	1130	1140	373	498	100	130	90	28	356	33	8	F35	1723	20000	36000
18"	1219	1232	424	546	115	140	104	32	356	33	8	F35	2562	25000	47500
20"	1321	1334	471	588	115	140	104	32	356	33	8	F35	3651	36200	60000
24"	1549	1569	570	680	135	170	123	36	406	39	8	F40	4876	48500	86000

ANSI Class 1500 Dimensions

SIZE	A (mm)		D (mm)	E (mm)	F (mm)	H1 (mm)	H2 (mm)	H3 (mm)	J (mm)	K (mm)	n	ISO 5211	Weight (kg)	TORQUE (N.m)	CV
	RF Flanged/ Butt Weld	RTJ Flanged													
2"	368	371	49	155	30	45	26	8	125	14	4	F12	76	350	360
2 1/2"	419	422	62	175	32	50	24	10	140	19	4	F14	90	640	690
3"	470	473	74	195	38	55	33	10	165	23	4	F16	135	950	900
4"	546	549	100	225	48	65	42.5	14	165	23	4	F16	248	1700	1600
6"	705	711	144	275	60	75	53	18	254	19	8	F25	409	3650	4000
8"	832	841	192	325	75	95	67.5	20	254	19	8	F25	870	7450	7900
10"	991	1000	239	370	85	110	71	22	298	23	8	F30	1088	11500	13000
12"	1130	1146	287	420	95	130	86	25	298	23	8	F30	1682	16500	19000
14"	1257	1276	316	445	100	130	90	28	356	33	8	F35	1959	24000	24000
16"	1384	1407	360	510	120	160	109	32	356	33	8	F35	3485	34500	33000

Alloy Valves and Control**Notes Regarding Dimensional Tables**

1. All dimensions in the above tables are for guidance only and can be subject to change dependant upon actual operating conditions and design parameters specified at point of sale. Accurate drawings are available for each valve size and can be supplied once an order is placed.
2. The torque values are based upon opening torque for soft seated valves at maximum differential pressure and clean gas or liquid conditions. No safety factor has been applied.
3. Metal seated versions have a torque approximately three times higher than that shown in the tables.
4. All mount pads conform to ISO 5211.

Bi-directional Upstream Sealing

This valve is equipped with two spring energized seats which provide pre-loading and thereby effective sealing at low pressures. Sealing is enhanced at higher pressures as the upstream pressure creates a piston effect on the seat. Both seats are identical thus ensuring true bi-directional operation.

Anti-Static Design

A number of metal components are isolated by packing and bearing materials which can cause electrical conductance continuity to be lost. To overcome this, spring energized balls are installed to maintain continuity and prevent the possibility of sparking resulting from static.

Emergency Sealant System

Valve sizes 6" and above (smaller sizes upon request where design allows) are fitted with an injection system. This system enables the user to inject special sealing grease around the stem seals and seats to create an emergency temporary seal in the event of a fire or seal/seat failure.

Blow-Out Prevention Stem

The stem has an integral shoulder as part of the design to prevent blow-out if excess pressure is encountered during operation.

Fire-Safe Design

In the event of a fire, several safety features are in place to prevent leakage. The seats have a metal lip that is pushed against the ball after the main seat melts away to effect temporary sealing. The main external joints have spiral wound gaskets to withstand the high temperatures encountered during a fire.

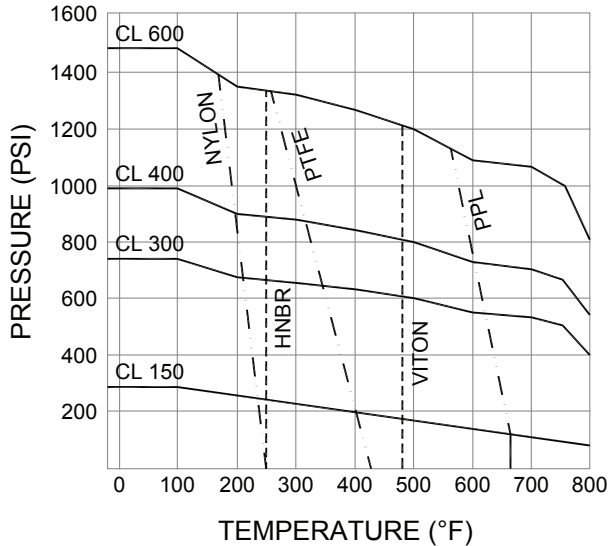
Seat Design Variations

These valves are supplied with self relieving (single piston) seat designs as standard. These seats also act as double block and bleed when the ball is in the closed position via the vent or drain port. Double piston effect seat design is available upon request and is suggested to be used in conjunction with a body cavity relief valve.

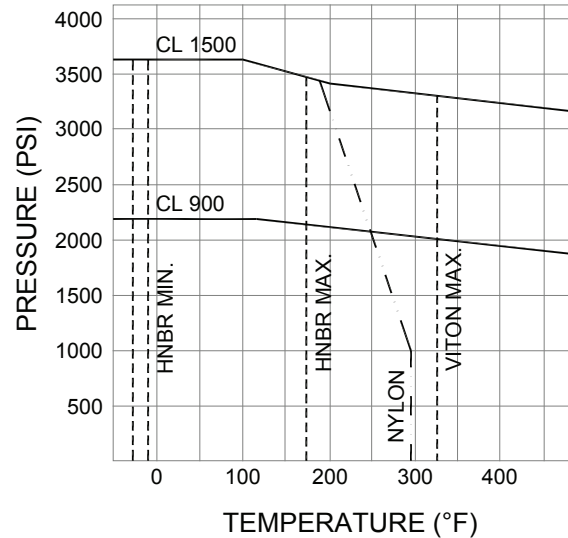
Item	Description	Materials				
		Carbon Steel	Sulfur Proof	304 Stainless Steel	316 Stainless Steel	LF2
1	End Caps	A105	A105	A182-F304, F304L	A182-F316, F316L	A350-LF2
2	Seat Spring	304, 316, 17-7PH, X-750				
3	Body Gasket	304 or 316 + Graphite Spiral Wound				
4	Ball Retainer	A105 + ENP	A105 + ENP	A182-F304, F304L	A182-F316, F316L	A350-LF2 + ENP
5	Ball	A105 + ENP	A105 + ENP	304, 304L	316, 316L	304, 316, LF2+ENP
6	Ball Bearing Sleeve	304 or 316 + PTFE				
7	Body	A105	A105	A182-F304, F304L	A182-F316, F316L	A350-LF2
8	Plug	A105	A105	304, 304L	316, 316L	304, 316
9	Body Seal	Viton, HNBR				
10	Body Stud	A193-B7	A193-B7M	A193-B8/B8M	A193-B8/B8M	A350-L7
11	Body Nut	A194-2H	A194-2HM	A194-8/8M	A194-8/8M	A194-7
12	Ball Retainer Pin	A182-F6a	A182-F6a	A182-F304, F304L	A182-F316, F316L	304, 316, F6a
13	Anti-Static Spring	304, 316, 17-7PH, X-750				
14	Sealant Injector	A105 + Zn	A105 + Zn	304, 304L	316, 316L	304, 316
15	Stem Sleeve	A105 + Zn	A105 + Zn	A182-F304, F304L	A182-F316, F316L	A182-F304, F316, F6a
16	Mount Pad	A105	A105	A182-F304, F304L	A182-F316, F316L	A350-LF2
17	Screw	A193-B7	A193-B7M	A193-B8/B8M	A193-B8/B8M	A350-L7
18	Stem	A182-F6a	A182-F6a	A182-F304, F304L	A182-F316, F316L	A182-F304, F316, F6a
19	Shear Pin	A182-F6a	A182-F6a	A182-F304, F304L	A182-F316, F316L	304, 316, F6a
20	Seat Ring	A105 + ENP	A105 + ENP	A182-F304, F304L	A182-F316, F316L	F304, F316, LF2 + ENP
21	Seat	RPTFE, Nylon, PEEK, Devlon, Metal				
22	Seat Retainer	A105 + ENP	A105 + ENP	A182-F304, F304L	A182-F316, F316L	A182-F304, F316, F6a
23	Seat Retainer Screw	A193-B7	A193-B7M	A193-B8/B8M	A193-B8/B8M	A350-L7
24	Seat Ring Seal	Viton, HNBR				
25	Thrust Ring	A105 + Zn	A105 + Zn	A182-F304, F304L	A182-F316, F316L	A182-F304, F316, F6a
26	Thrust Bearing	304 or 316 + PTFE				
27	Stem Sleeve Seal	Viton, HNBR				
28	Stem Sleeve Gasket	304 or 316 + Graphite Spiral Wound				
29	Stem Bearing	304 or 316 + PTFE				
30	Stem Seal	Viton, HNBR				
31	Stem Packing	Graphite				

Alloy Valves and Control

**Pressure/Temperature Rating
for Class 150, 300, 400 & 600**



**Pressure/Temperature Rating
for Class 900 & 1500**



Notes Regarding Pressure/Temperature Graphs

- The above graphs represent just some of the seat/seal combinations available covering typical applications. Please contact sales@avcovalve.com for conditions not shown above.

HOW TO ORDER

2"	12	3	3	R	V	150	SP
Size	Series	Body & End Material	Ball & Stem Material	Seat Material	Seal Material	End Style	Options
2"	1200 Series 3 Piece Forged Fire-Safe Full Port Trunnion Mounted Ball Valve	1 - Carbon Steel	1 - Carbon Steel	R - 15% Glass PTFE	H - HNBR	150 - 150# Flange	LF2 - Low Temp Carbon Steel
2 1/2"		3 - 316 SS	3 - 316 SS	N - Nylon	V - Viton	300 - 300# Flange	SP - Sulfur Proof
3"		J - 304 SS	J - 304 SS	P - PEEK		400 - 400# Flange	
4"				D - Devlon		600 - 600# Flange	
6"				M - Metal		900 - 900# Flange	
8"						1500 - 1500# Flange	
10"						BW - Butt Weld	
12"							
14"							
16"							
18"							
20"							
24"							
28"							