

# AVCO

*Alloy Valves and Control*

## BALL VALVES HP1100 SERIES

**INSTRUMENTS • CONTROLS • VALVES**

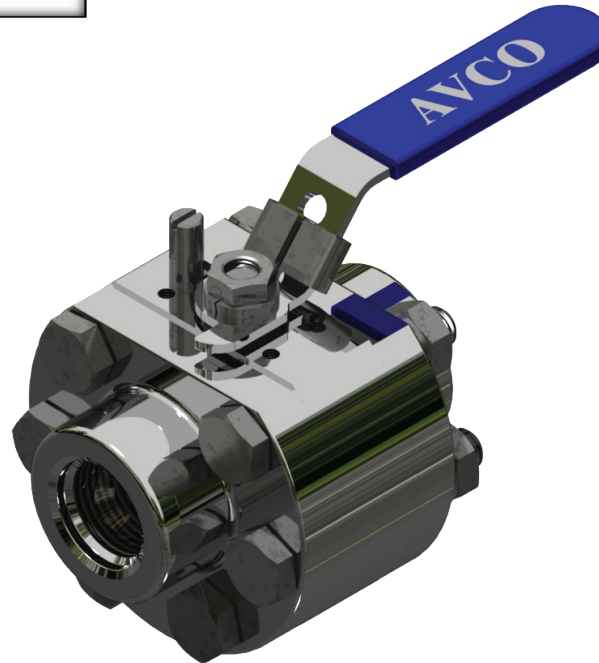
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### Size

1/2" - 2" (Standard Port)  
Class 2500  
6000 WOG

### End Connections

Butt Weld  
900# RF Flange  
1500# RF Flange  
2500# RF Flange  
NPT  
SAE AS5202 Internal Straight Thread  
Socket Weld  
Grayloc

### Valve Materials

316 Stainless Steel  
Carbon Steel

### Ball and Stem Materials

316 Stainless Steel  
17-4 PH Stainless Steel

### Seat Materials

25% Carbon Filled Teflon  
PCTFE (Kel-F)  
PEEK

### Service Applications

Chemical  
Offshore  
Petrochemical  
Power  
CNG  
Refining  
Oil & Gas

### Applicable Standards

ASME B16.34  
API 598  
NACE MR0175/ISO 15156

### About the HP1100 Series Ball Valve

The AVCO HP1100 series ball valve is designed for high pressure applications where high performance and quality are essential. The precision machined, three (3) piece design gives great flexibility for butt weld, socket weld, NPT, flanged and SAE AS5202 ends up to class 2500 or 6000 WOG. Materials of construction are 316 stainless steel and carbon steel. The floating standard port ball sits between precision engineered Carbon Filled Teflon, PCTFE (Kel-F) or PEEK seats to cater for harsh environment and high pressure applications. The stem is live loaded with blow out prevention and has online adjustment capability. The mount pad allows for many actuator styles (electric, pneumatic, etc.) to be mounted with ease. Whether for use in the oil, gas, chemical or power industry; this valve will deliver.

### Design

- The valve body has three bar stock sections (body and two end caps).
- The three sections are bolted together with high grade bolts and conform to ASME B16.34.
- Body bolts are encapsulated to minimize corrosion in hazardous or harsh locations.
- The valve is a swing out design for inline maintenance.
- The valve wall thickness meets ASME B16.34 for class 2500.
- Valves are available up to class 2500 per ASME B16.34 & 6000 WOG.
- The end to end dimensions conform to ASME B16.10 for flanged versions and to AVCO standards for all other styles.
- Butt weld ends conform to ASME B16.25.
- Flange ends conform to ASME B16.5.
- Internal straight thread ends conform to SAE AS5202
- Threaded ends conform to ASME B1.20.1 & B16.11
- Socket weld ends conform to ASME B16.11
- The ball is standard port.
- The seats are encapsulated for greater durability.
- The valve body has an integral mounting pad.
- The stem has blow-out prevention and anti-static design.
- The body gasket material is available in several materials to cover different media types.
- The seats are available in several materials to cover different media types.
- The stem assembly enables online adjustment of the packing.
- The valves are tested to API 598 and ASME B16.34.
- Valve sizes available are 1/2" thru 2".

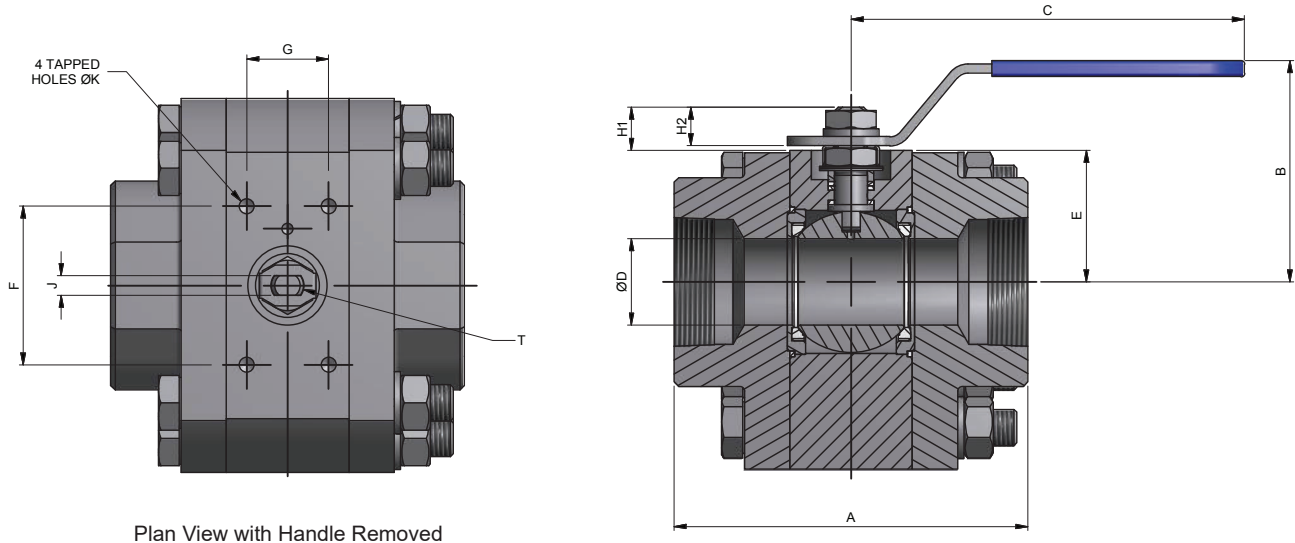
### Operation

The following operators can be utilized on the valve:

- Various manual handles (Lever, Gear)
- Pneumatic actuator.
- Hydraulic actuator.
- Electric motor actuator.

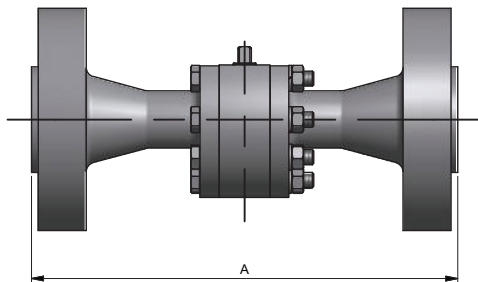
### Alloy Valves and Control

NPT, Butt Weld, Socket Weld & AS5202



SIZE	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	H1 (in.)	H2 (in.)	J (in.)	K	T	Cv	Weight (lbs)
1/2"	3.74	2.48	4.53	0.59	1.36	1.339	0.591	0.406	0.332	0.224	M5	3/8-24 UNF	28	6.6
3/4"	3.74	2.56	4.53	0.59	1.36	1.339	0.591	0.406	0.332	0.224	M5	3/8-24 UNF	28	6.9
1"	4.00	3.38	4.53	0.75	1.44	1.339	0.591	0.406	0.478	0.224	M5	3/8-24 UNF	49	9.7
1 1/2"	5.91	3.92	5.91	1.18	1.93	1.969	1.181	0.579	0.660	0.295	M6	7/16-20 UNF	135	26.8
2"	6.14	4.25	6.85	1.50	2.28	2.756	1.417	0.752	0.660	0.339	M6	9/16-18 UNF	225	36.2

### RF Flanged Ends (900#, 1500#, 2500#)



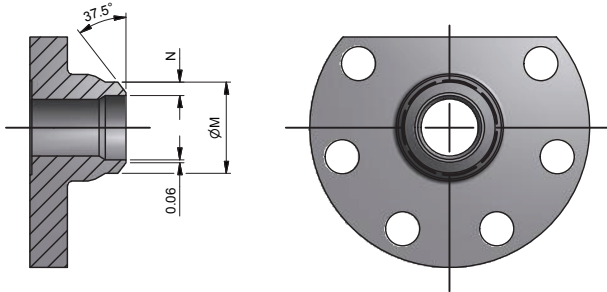
SIZE	A (in.)		
	900#	1500#	2500#
1/2"	8.50	8.50	10.38
3/4"	9.00	9.00	10.75
1"	10.00	10.00	12.12
1 1/2"	12.00	12.00	15.12
2"	14.50	14.50	17.75

See tables on page 3 for all other dimensions

#### Note

Please contact AVCO if you require flanged ends to be other than raised face.

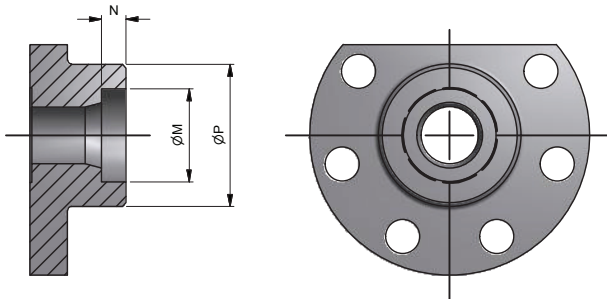
### BUTT WELD END STYLE (SCH 80, SCH 160)



SIZE	M (in.)	N (in.)	
		Sch 80	Sch 160
1/2"	0.840	0.147	0.187
3/4"	1.050	0.154	0.218
1"	1.315	0.179	0.250
1 1/2"	1.900	0.200	0.281
2"	2.375	0.218	0.344

See tables on page 3 for all other dimensions

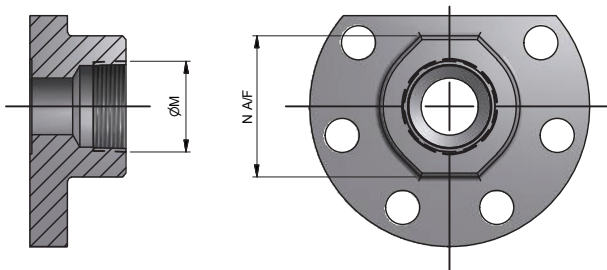
### SOCKET WELD END STYLE



SIZE	M (in.)	N (in.)	P (in.)
1/2"	0.87	0.39	1.52
3/4"	1.08	0.51	1.76
1"	1.35	0.51	2.13
1 1/2"	1.93	0.51	2.96
2"	2.42	0.65	3.68

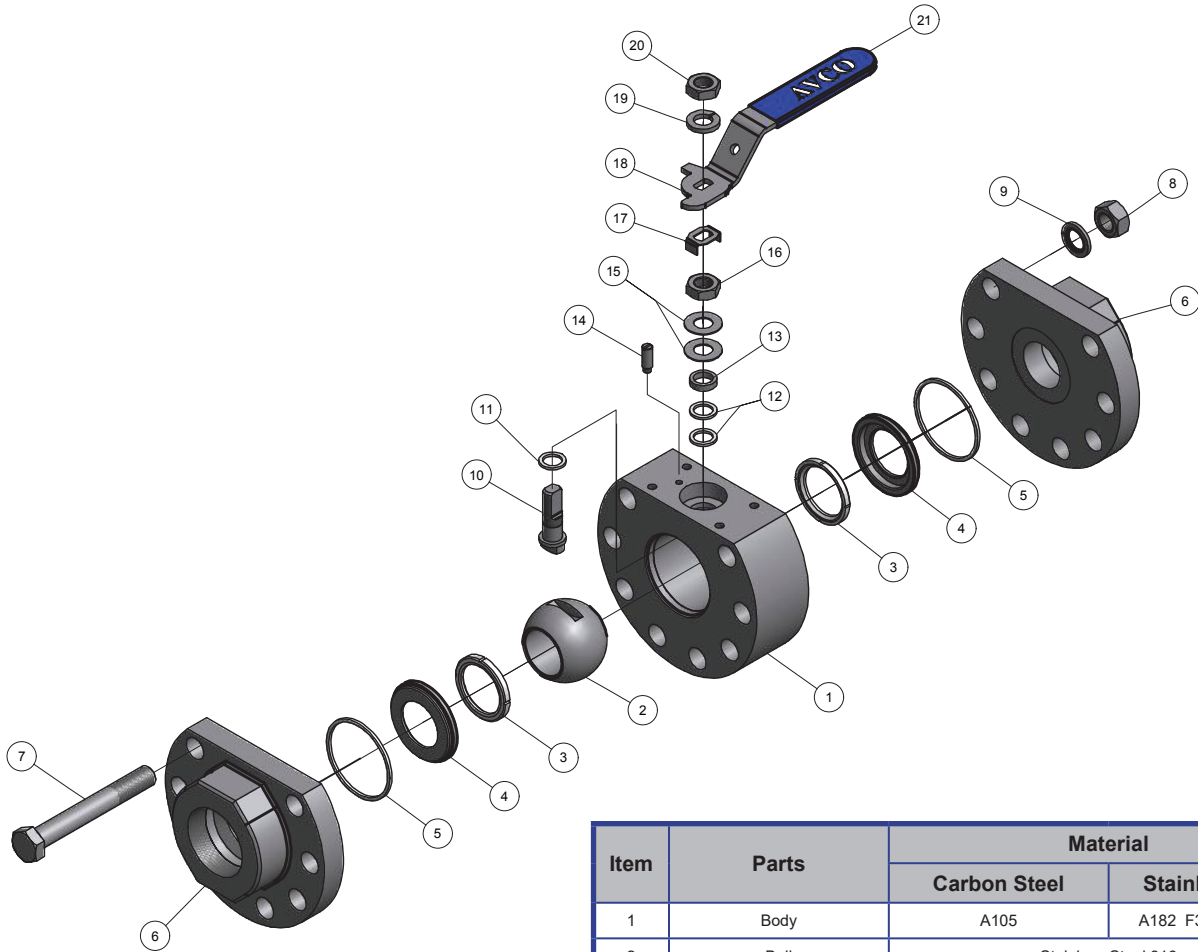
See tables on page 3 for all other dimensions

### THREADED NPT END STYLE



SIZE	M (NPT)	N (in.)
1/2"	1/2	1.50
3/4"	3/4	1.73
1"	1	2.10
1 1/2"	1 1/2	2.93
2"	2	3.62

See tables on page 3 for all other dimensions

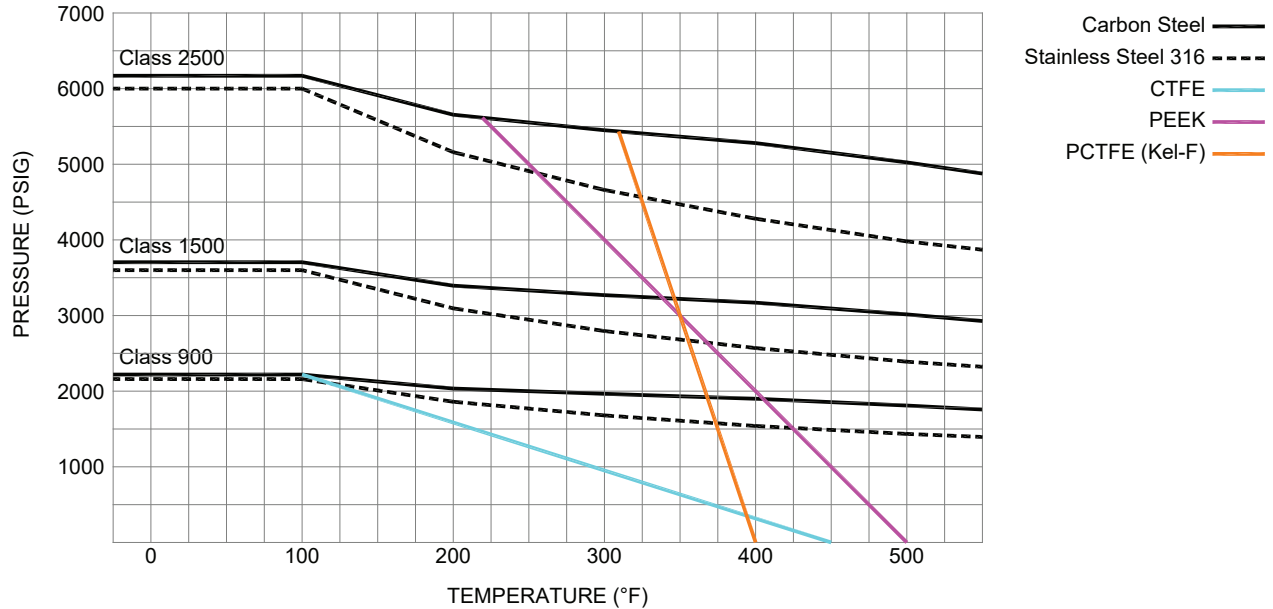


**Note**

\* The retainer (item 4) is integral with the End Cap (item 6) for valve sizes 1/2" thru 1"

Item	Parts	Material	
		Carbon Steel	Stainless Steel
1	Body	A105	A182 F316, A479 316
2	Ball	Stainless Steel 316	
3	Seat	25% Carbon Filled Teflon, PCTFE (Kel-F), PEEK	
4	Retainer*	Stainless Steel 316	
5	Body Seal	Buna N, Viton, Teflon	
6	End Cap	A105	A182 F316, A479 316
7	Body Bolt	A2-70	
8	Body Nut	A2-70	
9	Split Lock Washer	Stainless Steel	
10	Stem	Stainless Steel 17-4	
11	Thrust Washer	25% Carbon Filled Teflon, PCTFE (Kel-F), PEEK	
12	Packing	25% Carbon Filled Teflon, PCTFE (Kel-F), PEEK	
13	Gland Ring	Stainless Steel	
14	Stop Pin	Stainless Steel	
15	Belleville Washer	Stainless Steel	
16	Stem Nut	Stainless Steel	
17	Lock Tab	Stainless Steel	
18	Handle	Stainless Steel	
19	Handle Washer	Stainless Steel	
20	Handle Nut	Stainless Steel	
21	Handle Sleeve	Vinyl	

Pressure/Temperature Graph per ASME B16.34



## HOW TO ORDER

HP11	3	3	D	B	SE	100	-
Series	Body & End Material	Ball & Stem Material	Seat Material	Seal Material	End Style	Size	Options
High Pressure 1100 Series 3 Piece Ball Valve	1 - Carbon Steel 3 - 316 SS	3 - Stainless Steel	C - 25% Carbon Filled Teflon K - Kel-F (PCTFE) P - PEEK	B - BUNA N* T - Teflon (PTFE) V - Viton*	900 - 900# RF Flange 1500 - 1500# RF Flange 2500 - 2500# RF Flange BW80 - Butt Weld Sch80 BW160 - Butt Weld Sch160 GL - Grayloc SAE - SAE AS5202 SE - NPT SW - Socket Weld	050 - 1/2" 075 - 3/4" 100 - 1" 150 - 1 1/2" 200 - 2"	None - Bare Stem BAHL - Hardened Ball BAVT - Vented Balls LH - Lever Handle LLH - Locking Lever Handle
				* Only available on 1/2" thru 1" valves	Variations of the above or special ends can be supplied upon request		

### Example ordering codes:

**HP1133KB-SE-100** = 1" ball valve with stainless steel body/ball/stem/ends, Kel-F seats, Buna N seals, NPT ends & bare stem

**HP1113PT-BW160-200-LH** = 2" ball valve with carbon steel body/ends, stainless steel ball/stem, PEEK seats, Teflon Seals, SCH160 butt weld ends and lever handle