

# AVCO

*Alloy Valves and Control*

## BALL VALVES IV1100 SERIES



### Size

1/2" FNPT (Multi-Port)  
ASME B16.34 Class 900  
3000 WOG

### End Connections

1/2" MNPT  
3/4" MNPT

### Valve Materials

316 Stainless Steel  
Alloy 20  
Carbon Steel  
Hastelloy C  
Monel 400

### Ball and Stem Materials

316 Stainless Steel  
17-4 Stainless Steel  
Hastelloy C  
Monel 400  
Alloy 20

### Seat Materials

Teflon (PTFE)  
25% Carbon Filled Teflon  
15% Glass Filled Teflon  
Kel-F (PCTFE)  
PEEK  
UHMWPE  
TFM

### Applications

Drain Valve  
Gauge Valve (Multi-Port)  
Isolation Valve  
Orifice Valve  
Root Valve (0.41" bore)  
Transmitters (dP, Temp, etc.)

### Applicable Standards

ASME B16.34  
API 598

**About the IV1100 Series Ball Valve**

The AVCO IV1100 series ball valve is a welded instrumentation valve with multiple ports based upon the proven design of our signature 1000 series high performance ball valves. Each body and end is machined from barstock with the body having multiple 1/2" FNPT connections and the end available as 1/2" or 3/4" MNPT connections. It is designed in-house to meet or exceed ASME B16.34 class 900 or 3000 WOG and fully tested to API 598. Materials of construction are stainless steel, carbon steel and various alloys including Hastelloy, Alloy 20 & Monel. The floating ball sits between two encapsulated seats of various materials to cater for most harsh environment and high temperature applications. The stem is live loaded with blow out prevention and has online adjustment capability. Whether for use in the oil, gas, petrochemical, chemical or steam industry; this valve will deliver.

**Design**

- The valve body has two barstock sections (body and end).
- The two barstock sections are welded together and conform to ASME B16.34.
- The valve is bidirectional design.
- The valve has three FNPT ports in the main body; one at the end and one on each side.
- The end has two styles; 1/2" MNPT and 3/4" MNPT
- Valves are available as class 900 per ASME B16.34 or 3000 WOG
- Threaded ends conform to ASME B1.20.1, B16.11 & B16.34.
- The seats are encapsulated for greater durability.
- The stem has blow-out prevention and anti-static design.
- The seat material is 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.
- The handle orientation is adjustable to point towards the male or female end when the valve is in the open position.
- The valve has a 0.409" (10.4mm) bore for routing drills.

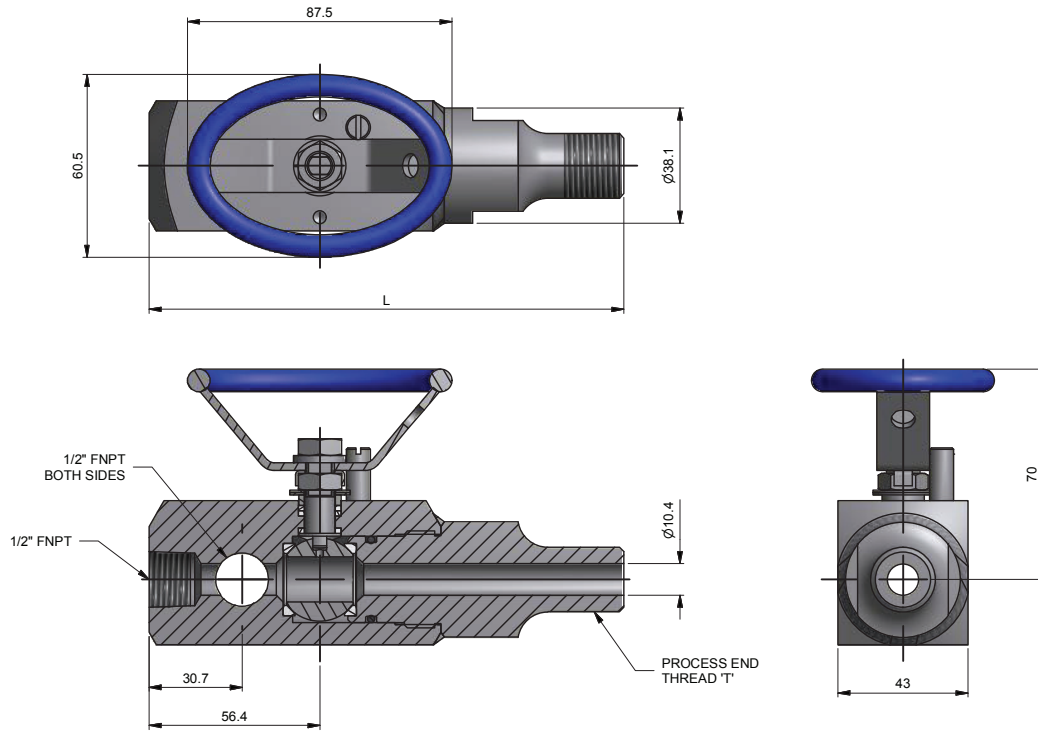
**Operation**

The following operators can be utilized on the valve:

- Lever handle
- Oval handle

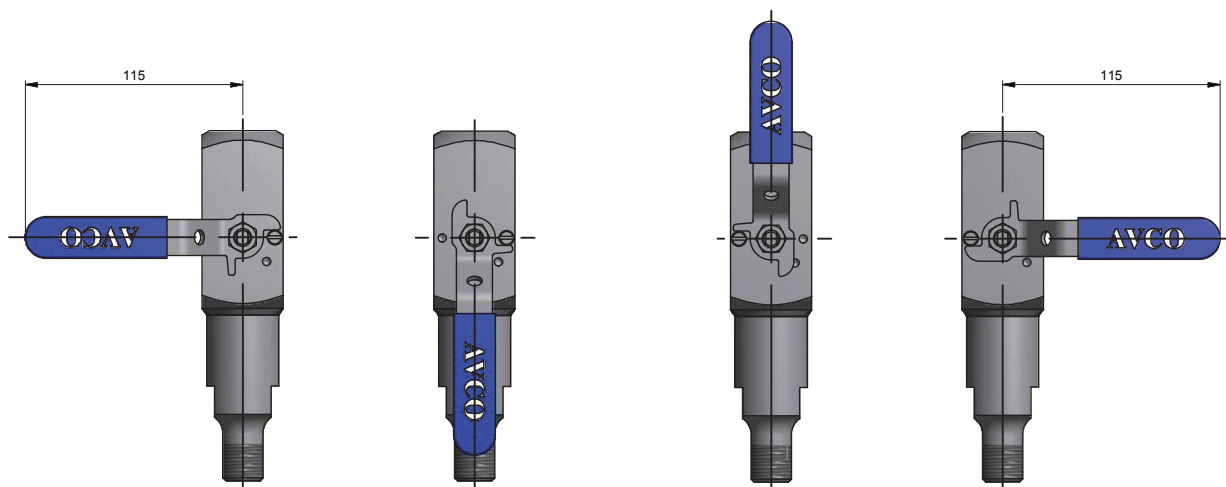
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#### DIMENSIONS



SIZE	L (in)				T (MNPT)	Weight (lbs)			
	Extra Short (XS)	Short (S)	Medium (M)	Long (L)		Extra Short (XS)	Short (S)	Medium (M)	Long (L)
1/2"	5.47	6.18	7.28	8.74	1/2"	3.4	4.0	4.5	5.2
1/2 x 3/4"	-	6.18	7.28	8.74	3/4"	-	4.1	4.6	5.3

#### LEVER HANDLE OPTIONS

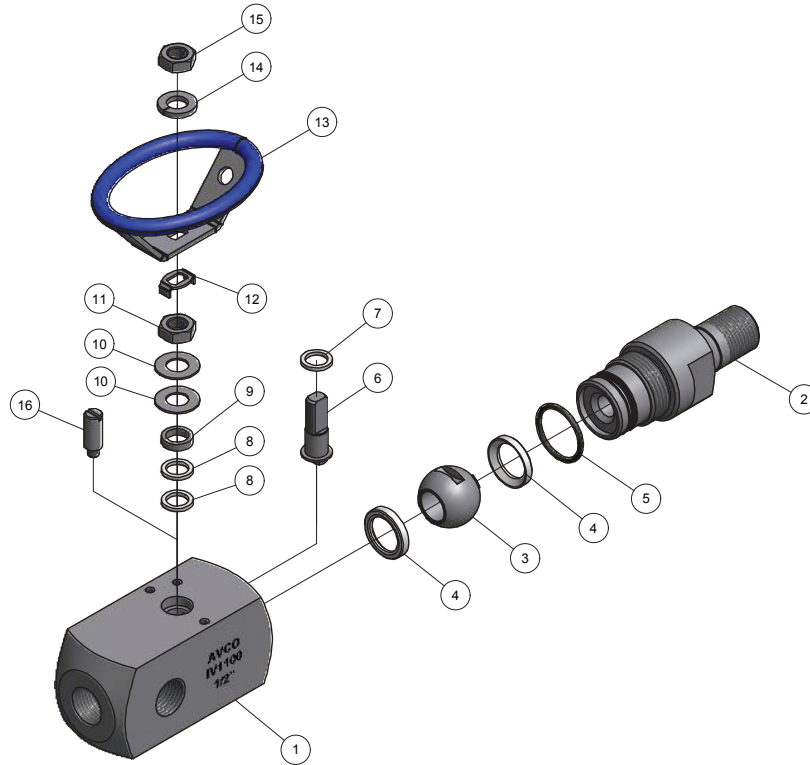


LH - Handle pointing downwards

LH1 - Handle pointing upwards

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EXPLODED VIEW

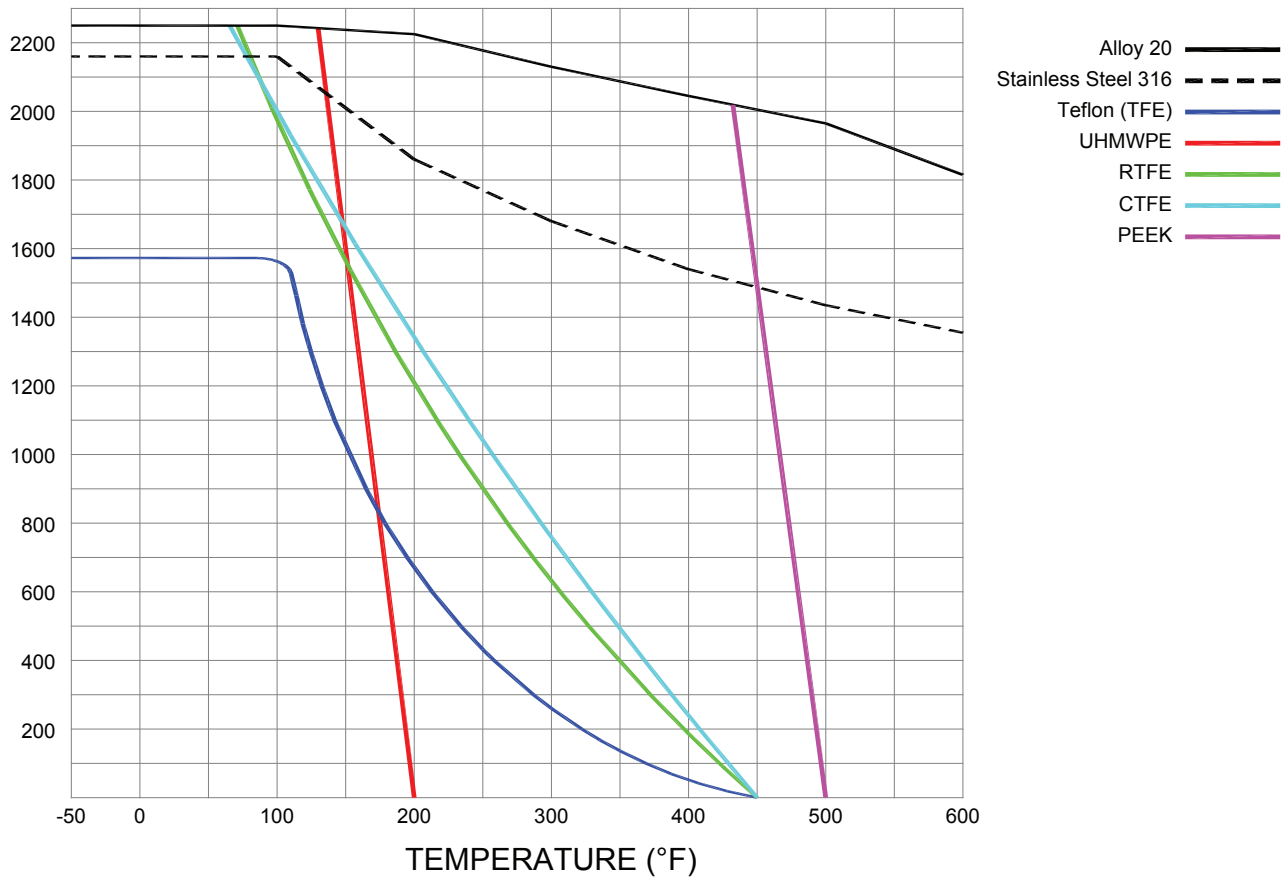


Item	Parts	Materials (Standard Selection)				
		316 SS	Alloy 20	Carbon Steel	Hastelloy C	Monel 400
1	Body	316 Stainless Steel	Alloy 20	Carbon Steel	Hastelloy C	Monel 400
2	End	316 Stainless Steel	Alloy 20	Carbon Steel	Hastelloy C	Monel 400
3	Ball	316 Stainless Steel	Alloy 20	316 Stainless Steel	Hastelloy C	Monel 400
4	Seat	CTFE	CTFE	CTFE	CTFE	CTFE
5	Sacrificial Seal*	Viton	Viton	Viton	Viton	Viton
6	Stem	316 Stainless Steel**	Alloy 20	316 Stainless Steel**	Hastelloy C	Monel 400
7	Thrust Washer	CTFE	CTFE	CTFE	CTFE	CTFE
8	Packing	CTFE	CTFE	CTFE	CTFE	CTFE
9	Gland Ring	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
10	Disc Spring	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
11	Stem Nut	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
12	Lock Tab	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
13	Handle	Stainless Steel/Vinyl	Stainless Steel/Vinyl	Stainless Steel/Vinyl	Stainless Steel/Vinyl	Stainless Steel/Vinyl
14	Split Washer	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
15	Handle Nut	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
16	Stop Pin	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel

\* Sacrificial seal may be omitted

\*\* May be substituted with 17-4 Stainless Steel for high torque applications

Pressure/Temperature Rating Graph Per ASME B16.34



### Notes

1. Contact AVCO for 3000 WOG pressure/temperature rating graphs.
2. Contact AVCO for Carbon Steel, Hastelloy C and Monel 400 pressure temperature graphs.
3. Contact AVCO for seat materials not shown.

## HOW TO ORDER

IV11	3	3	C	C	050	XS	OH
Series	Body & End Material	Ball & Stem Material	Seat Material	Packing Material	End Style	Length	Options
IV1100 Series 2 Piece Seal Welded Instrumentation Ball Valve	1 - Carbon Steel	2 - Alloy 20	T - Teflon (PTFE)	T - Teflon (PTFE)	050 - 1/2" MNPT	XS - Extra Short	LH - Lever Handle (Down)
	2 - Alloy 20	3 - 316 SS	R - 15% Glass PTFE	C - 25% Carbon PTFE	075 - 3/4" MNPT*	S - Short	LH1 - Lever Handle (Up)
	3 - 316 SS	4 - Monel 400	C - 25% Carbon PTFE	G - Graphoil		M - Medium	OH - Oval Handle
	4 - Monel 400	6 - Hastelloy C	P - PEEK	P - PEEK		L - Long	BAVT - Vented Balls
	6 - Hastelloy C		U - UHMWPE	U - UHMWPE			O2CB - O2 Clean/Bagged
			E - TFM				LLH - Locking Lever Handle
		K - Kel-F (PCTFE)					

\* Not available in XS (Extra Short) length

Example ordering codes:

IV1133CC-050-XS-OH = Extra Short length instrumentation ball valve with stainless steel body/ball, Carbon Filled Teflon seats & packing, 1/2" MNPT end & oval handle

IV1122CC-075-L-LH = Long length instrumentation ball valve with alloy 20 body/ball, Carbon Filled Teflon seats & packing, 3/4" MNPT end & downward lever handle