

# AVCO

*Alloy Valves and Control*

## BALL VALVES 9500 SERIES



### **Size**

1 1/2" - 6" (Full Port)  
Fire Safe as Standard

### **End Connections**

150# Flanged  
300# Flanged

### **Valve Materials**

316 Stainless Steel

### **Ball and Stem Materials**

316 Stainless Steel

### **Seat Materials**

25% Carbon Filled Teflon  
Teflon

### **Service Applications**

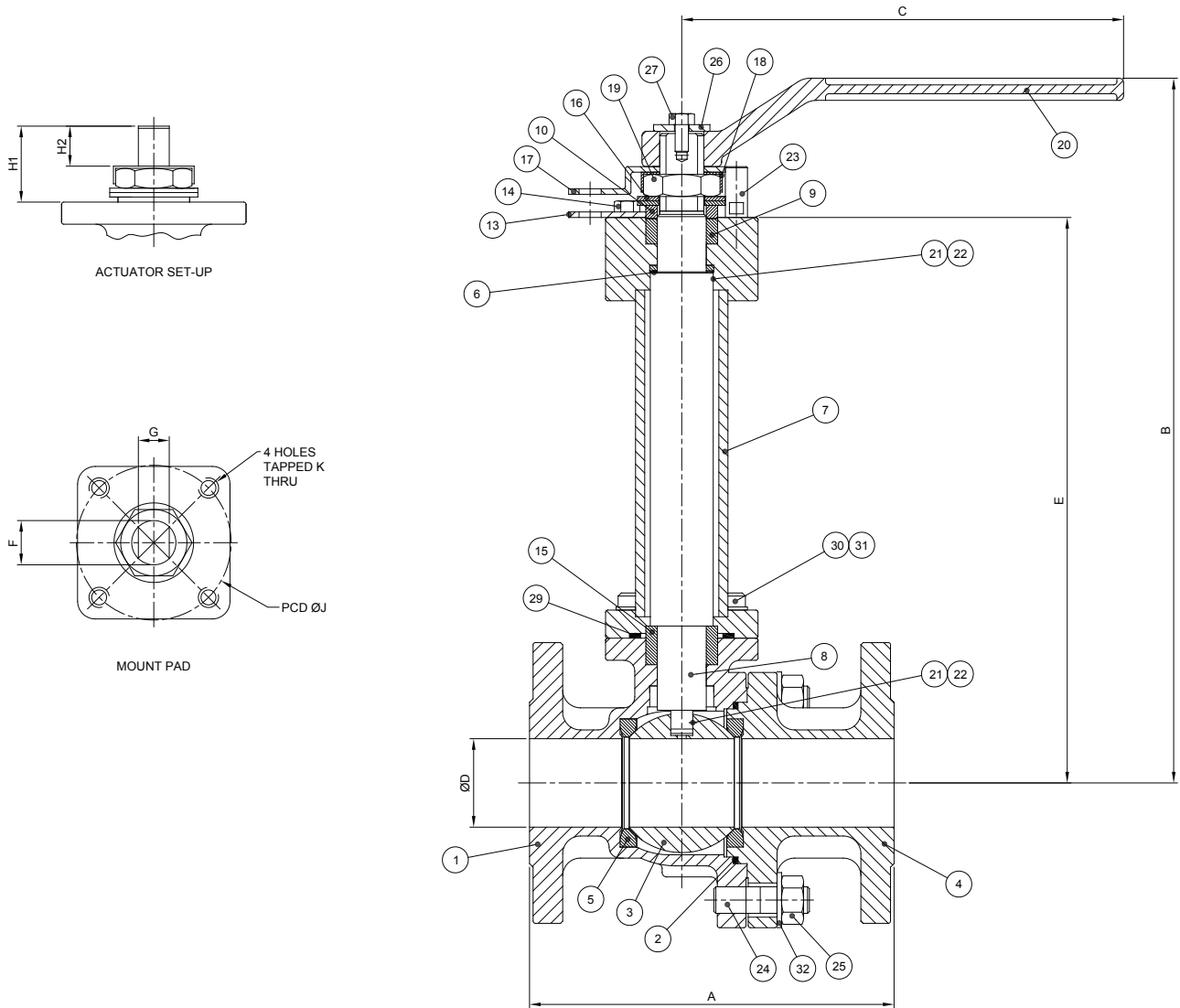
Aerospace  
Cryogenic Service  
Food Processing  
Liquid O<sub>2</sub>  
Liquid N<sub>2</sub>  
LNG  
Petro-Chemical

### **Applicable Standards**

ASME B16.34  
ASME B16.10  
ASME B16.5  
BS 6364  
ISO 21011

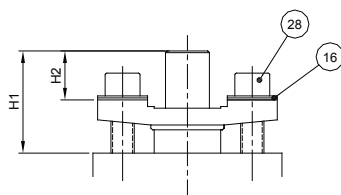
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1 1/2" THRU 2 1/2"

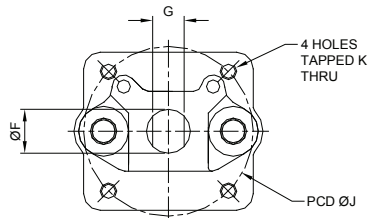


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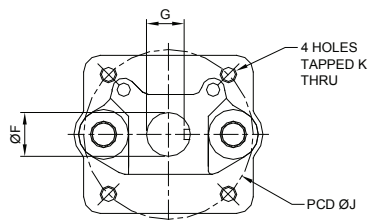
3" THRU 6"



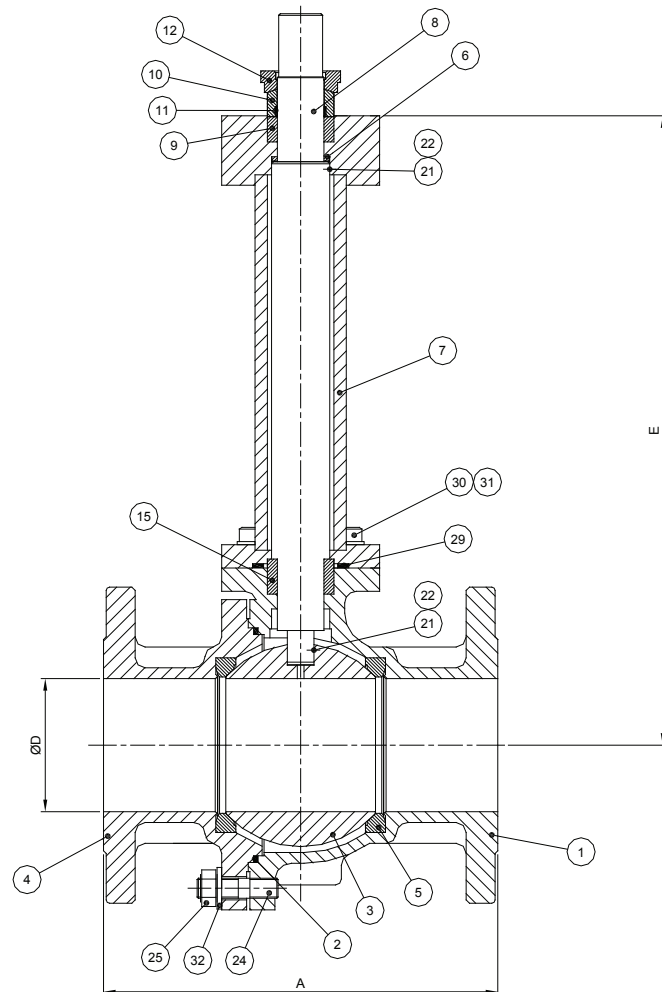
ACTUATOR SET-UP



MOUNT PAD - 3" 150/300# & 4" 150#



MOUNT PAD - 4" 300# & 6" 150/300#

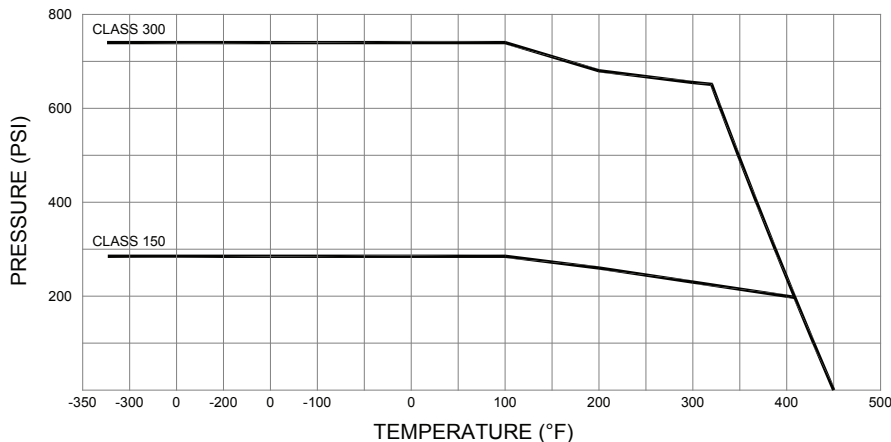


SIZE	ANS Class	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	H1 (in.)	H2 (in.)	J (in.)	K (in.)	ISO 5211	TORQUE (in-lbs)	CV
1 1/2"	150#	6.50	16.85	7.87	1.57	14.39	M20	0.551	1.46	0.69	2.756	M8	F07	216	213
	300#	7.48	16.85	7.87	1.57	14.39	M20	0.551	1.46	0.69	2.756	M8	F07	216	213
2"	150#	7.01	17.16	7.87	1.97	14.68	M20	0.551	1.50	0.69	2.756	M8	F07	300	378
	300#	8.50	17.16	7.87	1.97	14.68	M20	0.551	1.50	0.69	2.756	M8	F07	300	378
2 1/2"	150#	7.48	18.03	11.81	2.56	15.55	M20	0.551	1.50	0.69	2.756	M8	F07	531	660
	300#	9.49	18.03	11.81	2.56	15.55	M20	0.551	1.50	0.69	2.756	M8	F07	531	660
3"	150#	7.99	-	-	3.15	16.20	0.984	0.669	2.42	1.14	4.016	M10	F10	781	951
	300#	11.14	-	-	3.15	16.46	0.984	0.669	2.42	1.18	4.016	M10	F10	781	951
4"	150#	9.02	-	-	3.94	16.81	0.984	0.669	2.42	1.14	4.016	M10	F10	1444	1691
	300#	12.01	-	-	3.94	17.07	0.984	0.827	2.61	1.50	4.016	M10	F10	1444	1691
6"	150#	15.51	-	-	5.91	23.23	1.417	1.220	2.99	1.97	4.921	M12	F12	3356	3806
	300#	15.87	-	-	5.91	23.23	1.417	1.220	2.99	1.97	4.921	M12	F12	3356	3806

### Notes

1. Torque values are based upon ambient temperature operation.
2. Dimensions must be clarified before installation as AVCO reserves the right to make design improvements.

### Pressure/Temperature Rating for 25% Carbon Filled Teflon



### Features

- ANSI Class 150 & 300
- Spring Loaded Stem Packing
- Stem Blow-out Prevention
- Anti-Static
- ISO 5211 Mounting Pad
- Locking Handle as Standard on sizes up to 2 1/2"
- Bare Stem as Standard on sizes 3" and above
- Fire Safe as Standard
- Vented Ball

Item	Description	Valve Size			Material
		1 1/2" thru 2 1/2"	3" thru 4"	6"	
1	Body	Yes	Yes	Yes	A351-CF8M
2	Body Seal	Yes	Yes	Yes	SS 316/Graphite
3	Ball	Yes	Yes	Yes	A351-CF8M
4	End Cap	Yes	Yes	Yes	A351-CF8M
5	Seat	Yes	Yes	Yes	CTFE
6	Thrust Ring	Yes	Yes	Yes	TFM 4215
7	Cryogenic Bonnet	Yes	Yes	Yes	A276-316
8	Stem	Yes	Yes	Yes	A276-316
9	Packing	Yes	Yes	Yes	Grafoil
10	Gland Ring	Yes	Yes	No	A276-316
11	Upper Bushing	No	No	Yes	PTFE
12	Packing Gland	No	Yes	Yes	A351-CF8M
13	Locking Plate	Yes	No	No	Stainless Steel
14	Locking Plate Screw	Yes	No	No	A193-B8
15	Lower Bushing	Yes	Yes	Yes	CTFE
16	Belleville Washer	Yes	Yes	Yes	A276-301
17	Travel Stop	Yes	No	No	Stainless Steel
18	Lock Washer	Yes	No	No	Stainless Steel
19	Stem Nut	Yes	No	No	A276-304
20	Handle	Yes	No	No	Steel
21	Anti-Static Ball	Yes	Yes	Yes	A276-316
22	Spring	Yes	Yes	Yes	A276-316
23	Stop Pin	Yes	No	No	Stainless Steel
24	Body Stud	Yes	Yes	Yes	A193-B8
25	Body Nut	Yes	Yes	Yes	A194-8
26	Handle Washer	Yes	No	No	Stainless Steel
27	Handle Screw	Yes	No	No	A193-B8
28	Packing Gland Screw	No	Yes	Yes	A193-B8
29	Gasket	Yes	Yes	Yes	SS 316/Graphite
30	Bonnet Bolt	Yes	Yes	Yes	A193-B8
31	Bonnet Bolt Washer	Yes	Yes	Yes	Stainless Steel
32	Body Bolt Washer	Yes	Yes	Yes	Stainless Steel



### Electric Actuator

120/230 VAC  
12/24 VDC  
NEMA 4/7  
Positioners 4-20 mA  
Reversing  
Telemetry  
Battery Back-up  
Spring Return

### Pneumatic Actuator

Double Acting  
Spring Return  
Solenoid Valves  
Limit Switches  
Positioners 3-15 PSI  
Positioners 4-20 mA  
Intelligent Positioner  
Dec clutchable Manual Override

### Manual Valves

Lever Handle  
Locking Device  
Gear Operators

## HOW TO ORDER

95	3	3	C	G	150	150	FS
Series	Body & End Material	Ball & Stem Material	Seat Material	Seal Material	End Style	Size	Options
9500 Series 2 Piece Economy Full Port Flanged Cryogenic Ball Valve	3 - 316 SS	3 - 316 SS	C - 25% Carbon PTFE T - Teflon (PTFE)	G - Graphoil	150 - 150# Flange	150 - 1 1/2"	GO - Gear Operated
					300 - 300# Flange	200 - 2"	FS - Fire Safe
						250 - 2 1/2"	LH - Lever Handle
						300 - 3"	O2CB - O2 Clean/Bagged
						400 - 4"	
	600 - 6"						

### Example ordering codes:

9533CG-150-150-FS-LH = 1 1/2" ball valve with stainless steel body/ball, CTFE seats, Fire Safe, 150# RF Flange ends & locking lever  
9533CG-300-600-FS = 6" ball valve with stainless steel body/ball, CTFE seats, Fire Safe, 300# RF Flange ends and bare stem