

# AVCO

*Alloy Valves and Control*

## BALL VALVES 1800 SERIES



### Size

1/4" - 4" (Full Port)  
2000 WOG

### End Connections

NPT  
Butt Weld  
Socket Weld  
Flanged (150#, 300#, 600#)

### Valve Materials

316 Stainless Steel  
Carbon Steel  
Hastelloy C  
Monel

### Ball and Stem Materials

316 Stainless Steel  
Hastelloy B & C  
Monel 400  
Alloy 20

### Seat Materials

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

### Service Applications

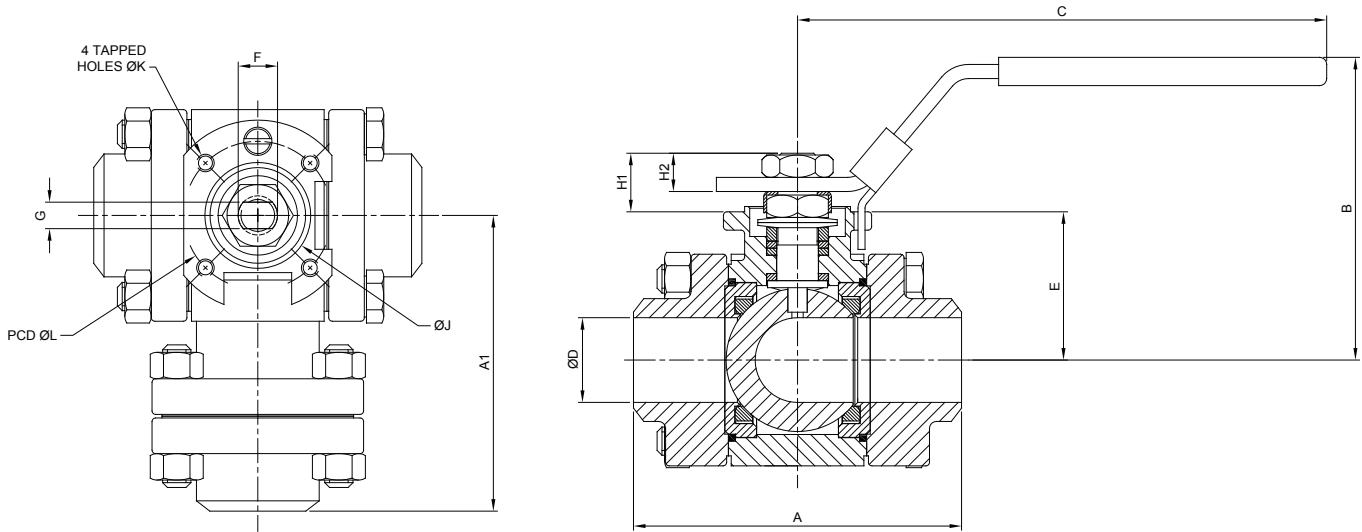
Chemical  
Dry/Liquid Chlorine  
Food Processing  
Hydraulic  
Oxygen  
Steam  
Thermal Fluids  
Vacuum  
Water/Oil/Gas

### Applicable Standards

ASME B16.34  
API 598

### Alloy Valves and Control

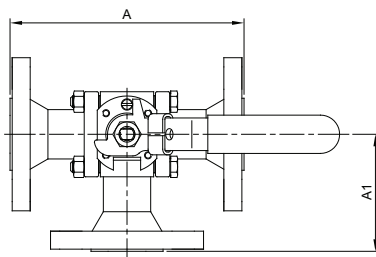
#### 1/4" THRU 2" (NPT, BW, SW)



Plan View with Handle Removed

SIZE	A (in.)	A1 (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	H1 (in.)	H2 (in.)	J (in.)	K	L (in.)	ISO 5211	Weight (lbs)	TORQUE (in-lbs)
1/4"	2.61	2.58	2.48	4.53	0.36	1.240	0.375	0.224	0.518	0.332	0.984	M5	1.417	F03	2	65
3/8"	2.61	2.58	2.48	4.53	0.49	1.240	0.375	0.224	0.518	0.332	0.984	M5	1.417	F03	2	65
1/2"	2.97	2.75	2.48	4.53	0.59	1.240	0.375	0.224	0.518	0.332	0.984	M5	1.417	F03	2	65
3/4"	3.17	2.94	2.56	4.53	0.75	1.319	0.375	0.224	0.518	0.332	0.984	M5	1.417	F03	2.5	80
1"	3.67	3.20	3.38	5.91	0.95	1.654	0.438	0.295	0.654	0.478	1.181	M5	1.654	F04	4	120
1 1/4"	4.37	3.71	3.50	5.91	1.18	1.850	0.438	0.295	0.654	0.478	1.181	M5	1.654	F04	6	235
1 1/2"	4.72	4.09	3.92	6.85	1.50	1.909	0.563	0.339	1.122	0.660	1.378	M6	1.969	F05	8	290
2"	5.53	4.72	4.25	6.85	1.97	2.264	0.563	0.339	1.122	0.660	1.378	M6	1.969	F05	14	450

#### 1/2" THRU 2" (Standard Flanged Ends 150#, 300#, 600#)



SIZE	A (in.)			A1 (in.)		
	150#	300#	600#	150#	300#	600#
1/2"	5.50	5.50	6.50	2.75	2.75	3.25
3/4"	6.00	6.00	7.50	3.00	3.00	3.75
1"	6.50	6.50	8.50	3.25	3.25	4.25
1 1/4"	7.00	7.00	9.00	3.50	3.50	4.50
1 1/2"	7.50	7.50	9.50	3.75	4.33	4.75
2"	8.50	8.50	11.50	4.25	4.75	5.75

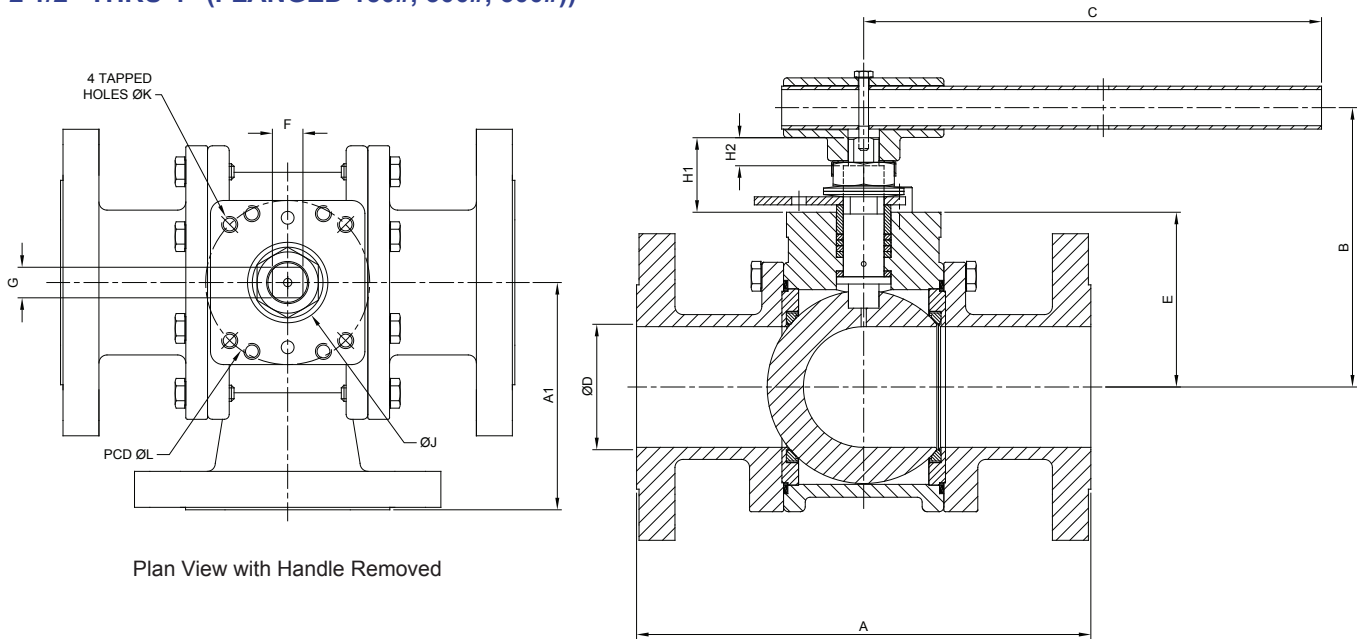
See main table on this page for all other dimensions

#### Note

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

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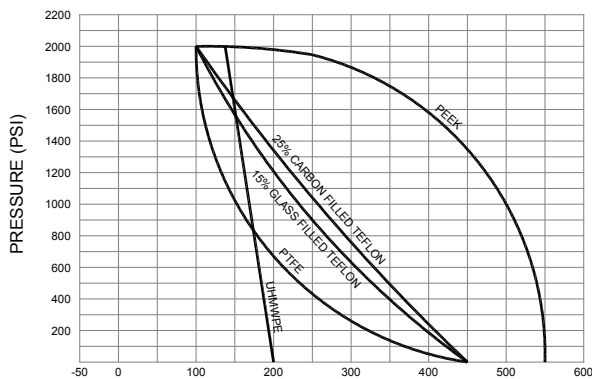
2 1/2" THRU 4" (FLANGED 150#, 300#, 600#)



Plan View with Handle Removed

SIZE	A (in.)			A1 (in.)			B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	H1 (in.)	H2 (in.)	J (in.)	K	L (in.)	ISO 5211	Weight (lbs)	TORQUE (in-lbs)
	150#	300#	600#	150#	300#	600#														
2 1/2"	9.50	9.50	13.00	4.75	5.75	6.50	5.28	8.84	2.52	3.248	0.787	0.551	1.673	0.713	1.575	M8	2.756	F07	22	685
3"	11.12	11.12	14.00	6.25	6.25	7.00	6.84	13.74	2.95	4.276	0.748	0.748	1.823	0.685	1.969	M10	4.016	F10	35	1200
4"	12.00	12.00	17.00	7.25	7.25	8.50	7.37	13.74	3.78	4.807	0.748	0.748	1.823	0.685	1.969	M10	4.016	F10	55	2000

### Pressure/Temperature Rating

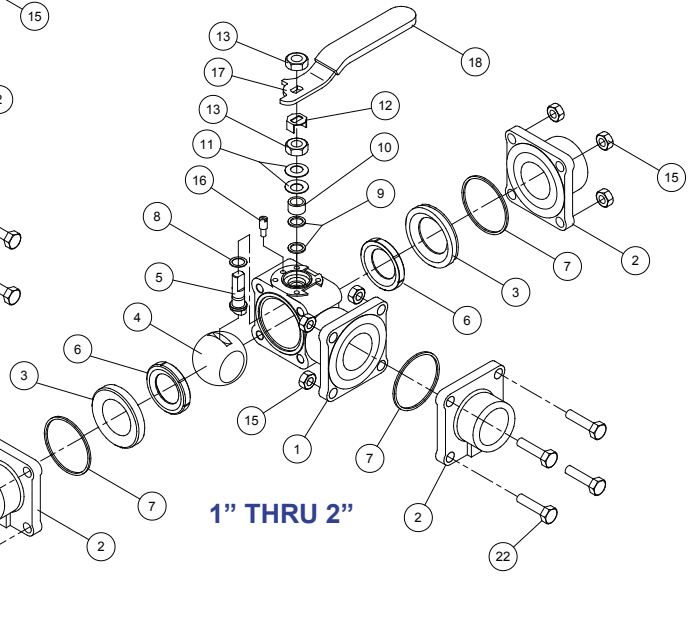
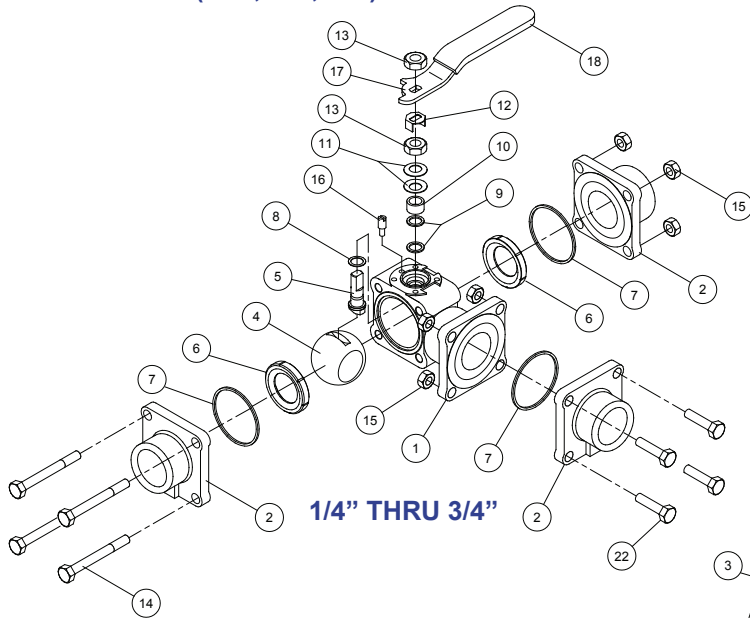


### Notes

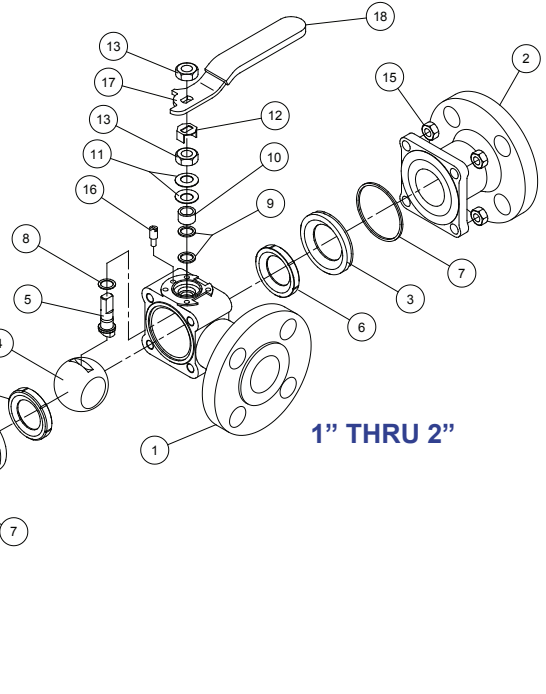
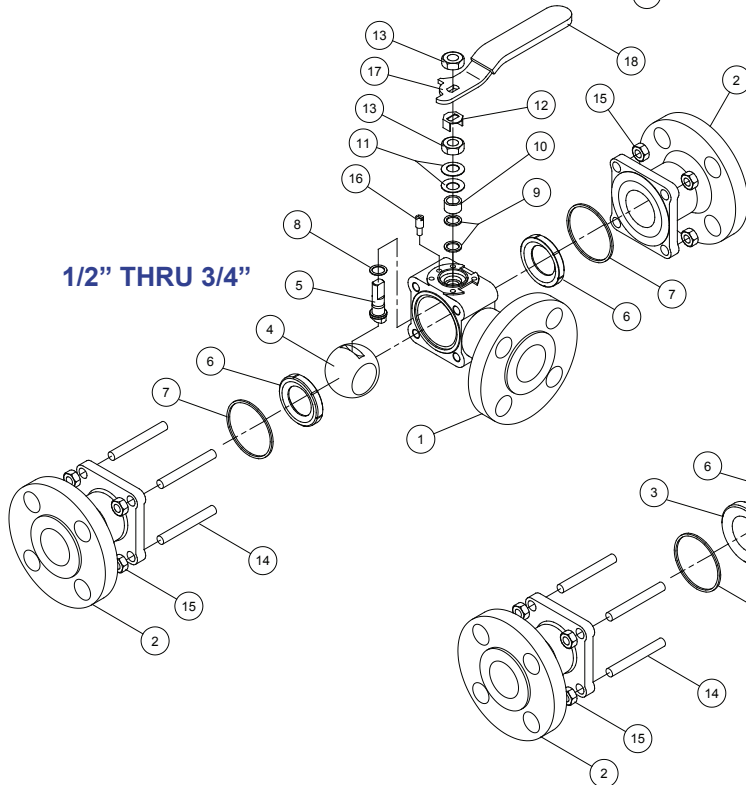
Please contact AVCO if you require customized versions of our valves. CAD drawings are available for most variations, including actuators etc.

### Alloy Valves and Control

1/4" THRU 2" (NPT, BW, SW)

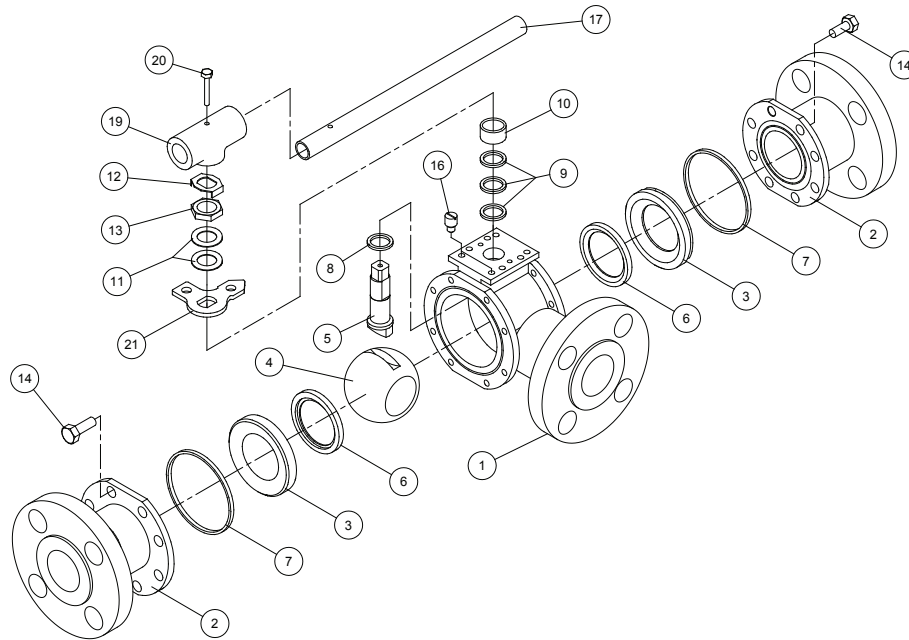


1/4" THRU 2" (FLANGED)



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2 1/2" THRU 4" (FLANGED)



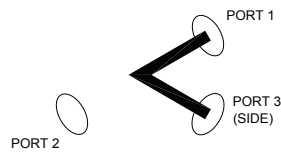
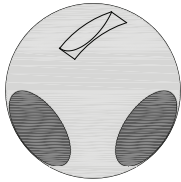
### Features

ANSI Class 150#, 300# & 600#  
 2000 WOG  
 Encapsulated Seats, Seals & Body Bolts  
 Spring Loaded Stem Packing  
 Bottom Entry Stem to Prevent Blow-Out  
 ISO 5211 Mounting Pad  
 Locking Handle  
 Inter-Changeable End Connections

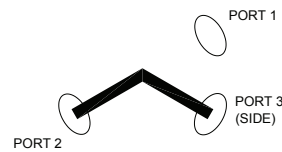
Item	Parts
1	Body
2	End Cap
3	Retainer
4	Ball
5	Stem
6	Ball Seat
7	Body Seal
8	Thrust Washer
9	Packing
10	Gland Ring
11	Disc Spring
12	Lock Tab
13	Stem Nut
14	Body Bolt
15	Body Nut
16	Stop Pin
17	Handle
18	Handle Sleeve
19	Wrench Block
20	Handle Bolt
21	Lock Pad
22	End Cap Bolt

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### Ball Options



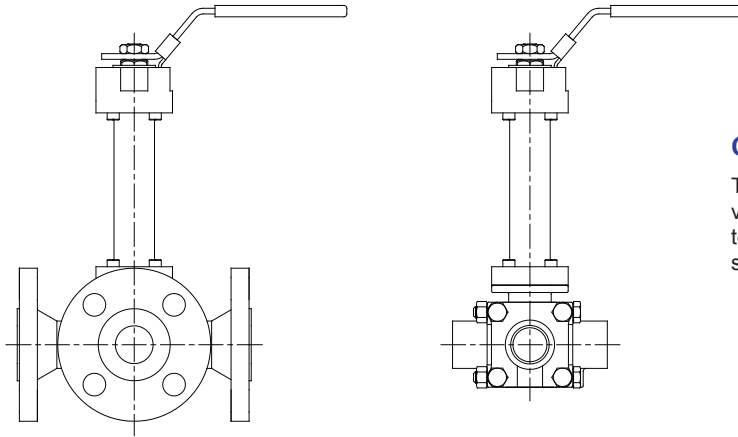
**Start Position**



**90 Degree Rotation**

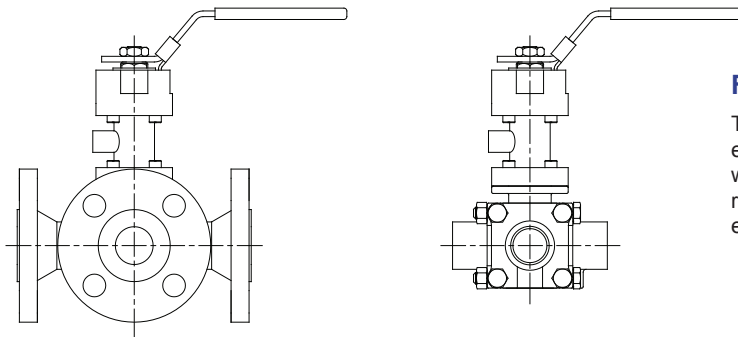
### 90 Degree Diverter Ball

Media flows between port 1 and port 3 when the valve handle is in-line with pipeline. Upon 90 degree rotation the media is diverted to flow between port 2 and port 3. The valve handle can be locked off in either position thus preventing unwanted tampering.



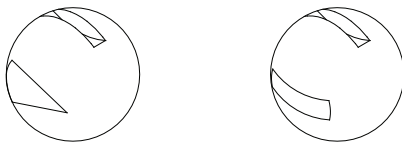
### Cryogenic Option

The AVCO 1800 series ball valves are available as cryogenic valves. The extended bonnet can be shortened or lengthened to suit many applications and is also available 'off the shelf' in standard lengths (see 1500 series literature).



### Fugitive Emissions Option

The AVCO 1800 series ball valves can be supplied with fugitive emissions (sniffer) bonnets. This gives an early warning system when the valve stem packing is becoming worn and ready for renewal, thus preventing dangerous chemicals/gases from entering the surrounding environment.



### Vee Port and Slotted Ball Option

The AVCO 1800 series ball valves can be supplied with vee port or slotted balls for greater control and accuracy. Many configurations are available to suit the needs of the customer.



### Electric Actuator

120 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

Oval Handle  
Spring Return  
Fusible Link  
Lock Device  
Gear Operators

## HOW TO ORDER

18	3	3	T	T	SE	100	BAS90
Series	Body & End Material	Ball & Stem Material	Seat Material	Seal Material	End Style	Size	Options
1800 Series 3 Piece Side Entry Diverter Ball Valve	1 - Carbon Steel	2 - Alloy 20	T - Teflon (PTFE)	T - Teflon (PTFE)	SE - NPT	025 - 1/4"	BAS90 - 90° Rotation Ball
	1L - Low Grade Carbon	3 - 316 SS	R - 15% Glass PTFE	C - 25% Carbon PTFE	SW - Socket Weld	038 - 3/8"	BAHL - Hardened Ball
	2 - Alloy 20	4 - Monel 400	C - 25% Carbon PTFE	G - Graphoil	BW - Butt Weld	050 - 1/2"	BNIE - Emissions Bonnet
	3 - 316 SS	5 - Hastelloy B	P - PEEK	B - BUNA N	GR - Grooved	075 - 3/4"	CF - Cavity Filled
	4 - Monel 400	6 - Hastelloy C	U - UHMWPE	E - EPDM	FBT - Flush Bottom Tank	100 - 1"	O2CB - O2 Clean/Bagged
	5 - Hastelloy B	7 - Inconel 625	K - Kel-F (PCTFE)	V - Viton	BSP - British Standard Pipe	125 - 1 1/4"	LH - Locking Lever Handle
	6 - Hastelloy C	8 - Titanium	B - Bronze	N - Neoprene	AN - Army Navy	150 - 1 1/2"	
	7 - Inconel 625	9 - Aluminum	S - Stellite		150 - 150# Flange	200 - 2"	
	8 - Titanium		I - Inconel		300 - 300# Flange	250 - 2 1/2"	
9 - Aluminum				600 - 600# Flange	300 - 3"		
					400 - 4"		
					Variations of the above or special ends can be supplied upon request		Customized Ports are available upon request

### Example ordering codes:

1833TT-SE-100-BAS90-LH = 1" ball valve with stainless steel body/ball, Teflon seats/seals, NPT ends, 90° ball & locking lever handle  
1844PG-300-100-BAS90 = 1" ball valve with Monel 400 body/ball, PEEK seats, Graphoil Seals, 300# RF Flange, 900 ball & bare stem  
\*\*\*NOTE\*\*\* Not all combinations are possible