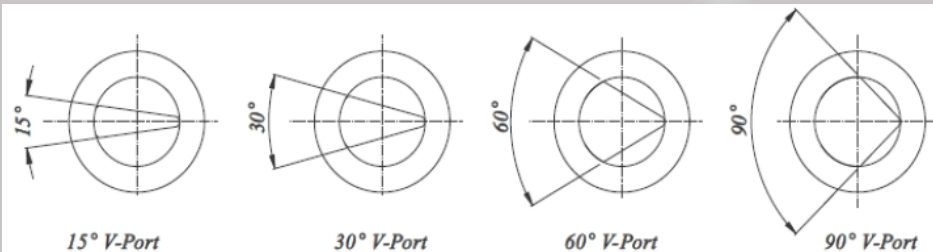




## STANDARDS

- CRN registered
- Valve Design: ASME B16.34
- Steel Casting: MSS SP-55
- Face-to-face: ASME B16.10
- Flange Connection: ASME B16.50
- Pressure Test: API 598 (ISO 5208)
- TA-Luft Low Emission
- Valve Marking: MSS SP-25
- Sulfide Stress Cracking: NACE MR-01-75



# J Flow Controls **OBDM2500/OB2500 Series** Direct Mount 2 Piece Flanged V-Ball Valve

## FEATURES & BENEFITS

- Body & end caps quality investment
- Available in Stainless & Carbon Steel (1/2" - 12")
- ISO 5211 mounting pad; Direct mount 150 Class
- Adjustable stem packing
- Blow-out proof stem design
- 100% air tested under water at 80 - 100 psi
- Working pressure of Class 150 / 300
- Temperature range: -320°F to 800°F
- Fire safe: API 607 5th Edition - option
- Spring (dead man) handle - option
- PTFE cavity filler (option)
- PTFE / PFA coating (40-70 um) - option
- V-ball for control valve in 15°, 30°, 60°, 90°, slot, custom
- Cryogenic valves, metal seated valves, metal seated

## APPLICATIONS & INDUSTRIES

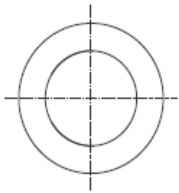
- Chemical & petrochemical
- HVAC applications
- Power generation plants
- Pulp & paper plants
- Ship building industries
- Fiber industries
- Steel & iron industries
- Coal & mining industries
- Food industries
- LNG, HRSG industries
- Oil refinery industries
- Desalination industries

## V-Control Ball Valve Flow Coefficient Cv Charts

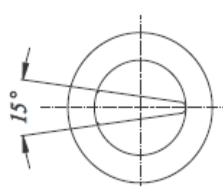
Valve Size	V-Port Angle	Percent and Angle of Ball Rotation										
		0% 0°	10% 9°	20% 18°	30% 27°	40% 36°	50% 45°	60% 54°	70% 63°	80% 72°	90% 81°	100% 90°
1/2"	15°	0	0.04	0.17	0.43	0.68	0.98	1.62	2.09	2.84	3.61	4.18
1/2"	30°	0	0.04	0.23	0.47	0.77	1.19	1.83	2.47	3.43	4.65	5.55
1/2"	60°	0	0.04	0.28	0.73	1.11	1.83	2.92	4.29	7.00	9.43	12.78
1/2"	90°	0	0.06	0.47	0.85	1.28	2.05	3.24	4.74	8.26	11.61	14.72
3/4"	15°	0	0.05	0.20	0.51	0.88	1.30	2.13	2.75	3.74	4.75	5.51
3/4"	30°	0	0.07	0.30	0.61	0.99	1.57	2.42	3.25	4.52	6.12	7.30
3/4"	60°	0	0.07	0.35	0.93	1.46	2.42	3.85	5.64	9.21	12.41	16.25
3/4"	90°	0	0.08	0.59	1.11	1.69	2.69	4.27	6.24	10.85	15.28	19.37
1"	15°	0	0.06	0.30	0.93	1.49	2.31	3.75	4.67	6.47	8.46	9.84
1"	30°	0	0.08	0.45	1.25	2.06	3.54	5.30	7.70	10.49	12.84	15.48
1"	60°	0	0.09	0.68	1.74	2.78	5.13	8.00	11.88	18.71	23.22	32.81
1"	90°	0	0.11	0.93	2.78	5.09	7.74	12.20	17.33	24.48	26.79	43.89
1-1/4"	15°	0	0.03	0.27	0.83	1.64	2.78	4.07	5.88	7.99	10.81	12.82
1-1/4"	30°	0	0.05	0.48	1.37	2.47	4.12	6.08	8.82	11.76	14.87	17.37
1-1/4"	60°	0	0.07	0.67	2.04	3.41	6.47	10.80	15.39	22.35	33.37	43.45
1-1/4"	90°	0	0.08	0.78	2.92	5.41	10.23	17.28	19.48	34.93	51.76	65.81
1-1/2"	15°	0	0.05	0.37	1.15	2.26	3.82	5.59	8.08	10.99	14.86	17.62
1-1/2"	30°	0	0.07	0.65	1.88	3.39	5.66	8.36	12.12	16.17	20.44	23.88
1-1/2"	60°	0	0.09	0.92	2.81	4.69	8.89	14.85	21.16	30.73	45.88	59.74
1-1/2"	90°	0	0.10	1.07	4.01	7.44	14.06	23.76	26.78	48.03	71.17	90.49
2"	15°	0	0.06	0.69	2.23	4.45	7.24	10.68	15.38	21.39	28.75	34.69
2"	30°	0	0.09	1.18	3.79	7.53	12.26	17.83	26.44	36.45	48.09	55.85
2"	60°	0	0.11	1.51	5.80	10.39	20.60	33.98	48.75	69.04	104.23	135.75
2"	90°	0	0.16	1.89	7.28	13.58	25.38	42.30	55.56	87.04	129.75	167.34
2-1/2"	15°	0	0.07	0.77	2.40	5.23	8.06	11.73	16.42	22.31	27.24	31.30
2-1/2"	30°	0	0.09	1.15	4.42	7.91	13.39	20.05	30.43	41.92	69.75	76.95
2-1/2"	60°	0	0.13	1.46	5.91	11.90	23.24	37.92	59.31	83.29	113.65	162.50
2-1/2"	90°	0	0.17	1.83	7.29	16.45	31.16	53.53	77.89	118.29	177.32	239.45
3"	15°	0	0.08	0.89	2.96	6.65	9.58	13.42	19.47	26.67	31.79	38.31
3"	30°	0	0.12	1.20	4.15	9.49	15.96	26.78	38.91	53.31	69.77	85.91
3"	60°	0	0.15	2.89	6.70	15.82	29.36	46.32	73.60	106.74	149.88	193.20
3"	90°	0	0.20	4.12	8.65	21.09	41.09	69.27	105.91	161.04	237.23	359.21
4"	15°	0	0.11	1.40	3.73	8.86	16.76	27.91	41.85	59.24	75.49	96.37
4"	30°	0	0.16	1.75	7.84	18.59	35.21	58.60	87.89	124.41	158.53	196.35
4"	60°	0	0.26	2.20	12.44	33.67	62.98	106.26	160.49	233.96	329.50	437.29
4"	90°	0	0.35	4.37	19.68	50.29	91.83	157.43	240.51	365.15	546.62	830.86
6"	15°	0	0.20	2.50	6.64	15.77	29.85	49.70	74.54	105.51	134.44	171.62
6"	30°	0	0.29	3.12	13.97	33.11	62.70	104.37	156.53	221.56	282.33	349.69
6"	60°	0	0.46	5.41	22.15	59.97	112.16	189.24	285.82	416.68	586.83	800.80
6"	90°	0	0.66	7.79	35.05	89.56	163.55	280.37	428.34	650.32	973.50	1479.70
8"	15°	0	0.34	4.23	11.32	26.84	50.80	84.58	126.84	395.03	503.35	292.07
8"	30°	0	0.49	5.32	23.77	56.35	106.70	177.62	266.39	377.06	480.47	595.11
8"	60°	0	0.79	6.66	23.81	102.06	190.87	322.06	486.41	709.11	998.69	1325.38
8"	90°	0	1.05	13.26	59.64	152.42	278.33	477.14	728.96	1106.69	1656.77	2518.18
10"	15°	0	0.53	6.62	17.69	41.94	79.38	132.15	198.20	617.24	786.48	456.36
10"	30°	0	0.77	8.31	37.14	88.05	166.73	277.53	416.24	589.16	750.74	929.87
10"	60°	0	1.23	10.41	37.20	159.47	298.23	503.22	760.02	1107.99	1560.45	2070.90
10"	90°	0	1.64	20.72	93.20	238.16	434.90	745.53	1139.00	1729.20	2588.70	3934.65
12"	15°	0	0.74	9.26	24.76	58.72	111.13	185.01	277.47	864.13	1101.07	638.90
12"	30°	0	1.07	11.63	52.00	123.27	233.42	388.54	582.73	824.82	1051.03	1301.81
12"	60°	0	1.72	14.57	52.08	223.25	417.52	704.51	1064.03	1551.19	2184.63	2899.26
12"	90°	0	2.29	29.00	130.47	333.42	608.85	1043.74	1594.59	2420.88	3624.18	5508.51

## V-Control Ball Valve Flow Coefficient Cv Charts (Full Port -Round Ball)

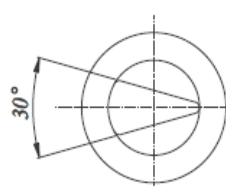
Valve Size	Percent and Angle of Ball Rotation										
	0% 0°	10% 9°	20% 18°	30% 27°	40% 36°	50% 45°	60% 54°	70% 63°	80% 72°	90% 81°	100% 90°
1/2"	0	0	0	0.7	3.7	7.8	12.6	17.9	23.3	28.6	32
3/4"	0	0	0	2.5	7.7	14.2	21.7	29.7	38.0	46.2	54
1"	0	0	1.2	8.6	19.4	32.4	46.7	61.9	73.3	92.4	105
1-1/4"	0	0	5.3	20.7	41.3	65.4	91.7	119.3	147.2	174.5	200
1-1/2"	0	0	3.4	22.7	50.7	83.9	120.8	159.7	199.4	238.4	275
2"	0	0	15.5	54.8	106.6	166.6	232.0	300.4	369.5	437.0	500
2-1/2"	0	0	25.8	87.6	168.6	262.1	363.9	470.2	577.5	682.3	780
3"	0	0	33.8	123.7	242.7	380.8	531.5	689.3	848.7	1004.5	1150
4"	0	7.5	118.9	296.2	516.2	766.5	1035.8	1314.3	1592.7	1861.8	2100
6"	0	0	224.3	631.8	1149.9	1746.3	2392.5	3064.2	3738.8	4393.3	5000
8"	0	63.7	600.7	1416.3	2418.3	3552.3	4768.2	6023.1	7275.9	8485.1	9600
10"	0	184.2	1085.2	2381.6	3950.9	5712.4	7591.5	9523.9	11447.0	13298.4	15000
12"	0	139.3	1314.0	3046.4	5290.0	7770.7	10430.5	13175.6	15916.1	18561.2	21000



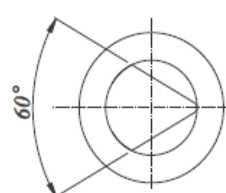
*Straight Port*



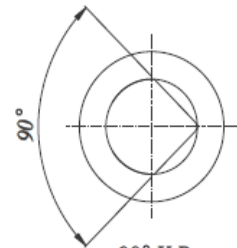
*15° V-Port*



*30° V-Port*



*60° V-Port*

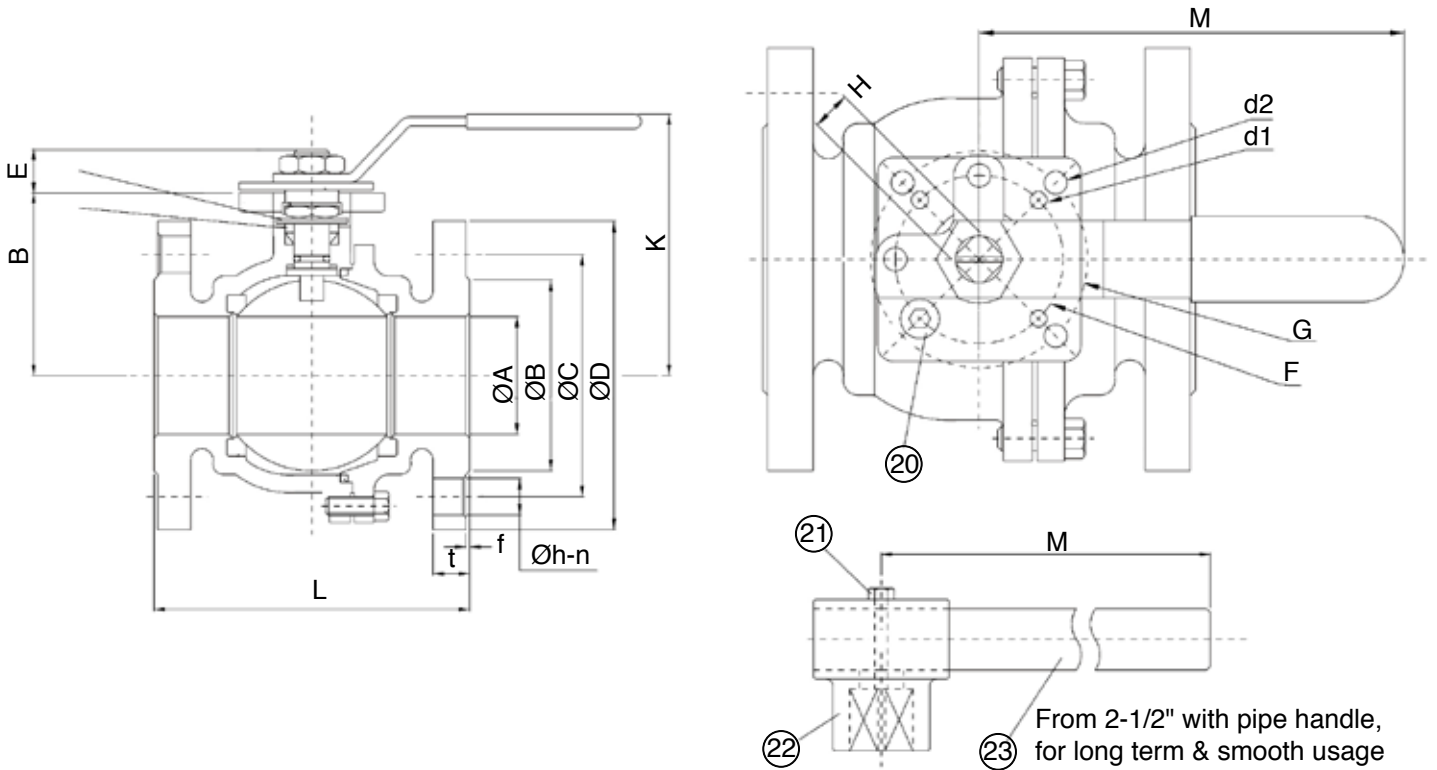


*90° V-Port*



## OBDM2500 Flanged Valves

### DIMENSIONS ANSI 150 (1/2" - 4")



Size (in)	A	B	E	L	H	K	M	F	G	d1	d2	Class 150# Flanged Dimensions							Wt Lbs
												D	C	h	N	t	g	f	
1/2	0.59	1.89	0.43	4.25	0.354	3.15	5.12	1.42	1.65	0.236	0.236	3.50	2.38	0.63	4	0.45	1.38	0.06	3.8
3/4	0.79	2.09	0.43	4.61	0.354	3.15	5.12	1.42	1.65	0.236	0.236	3.86	2.76	0.63	4	0.45	1.69	0.06	4.7
1	0.98	2.32	0.55	5.00	0.433	3.54	6.50	1.65	1.97	0.236	0.276	4.25	3.13	0.63	4	0.45	2.01	0.06	6.4
1-1/4	1.26	2.80	0.55	5.51	0.433	4.02	6.50	1.65	1.97	0.236	0.276	4.61	3.50	0.63	4	0.50	2.52	0.06	8.8
1-1/2	1.50	2.99	0.71	6.50	0.551	4.33	8.07	1.97	2.76	0.276	0.362	5.00	3.88	0.63	4	0.56	2.87	0.06	13
2	1.97	3.35	0.71	7.01	0.551	4.72	8.07	1.97	2.76	0.276	0.362	5.98	4.74	0.75	4	0.63	3.62	0.06	19
2-1/2	2.56	3.68	0.91	7.48	0.669	5.51	11.81	2.76	4.02	0.362	0.449	7.01	5.49	0.75	4	0.70	4.13	0.06	29
3	3.15	4.06	0.91	7.99	0.669	5.91	13.39	2.76	4.02	0.362	0.449	7.48	6.00	0.75	4	0.75	5.00	0.06	38
4"	3.94	5.20	0.98	9.02	0.866	7.09	16.54	4.02	4.92	0.449	0.51	9.02	7.50	0.75	8	0.94	6.18	0.06	64

### BREAK-TORQUE VALUE (IN-LB AT 0 PSI) - CLASS 150

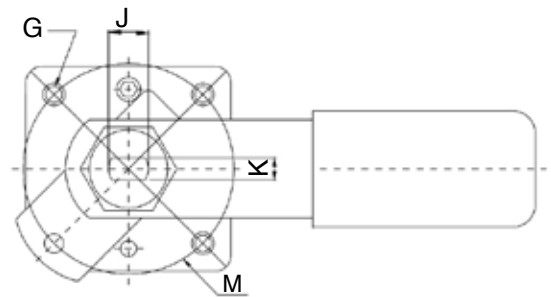
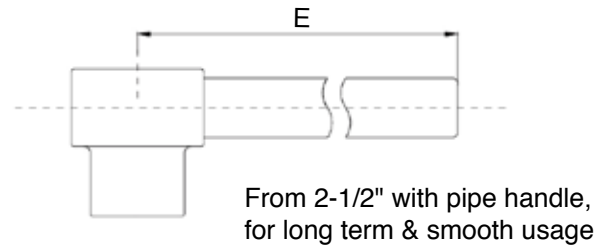
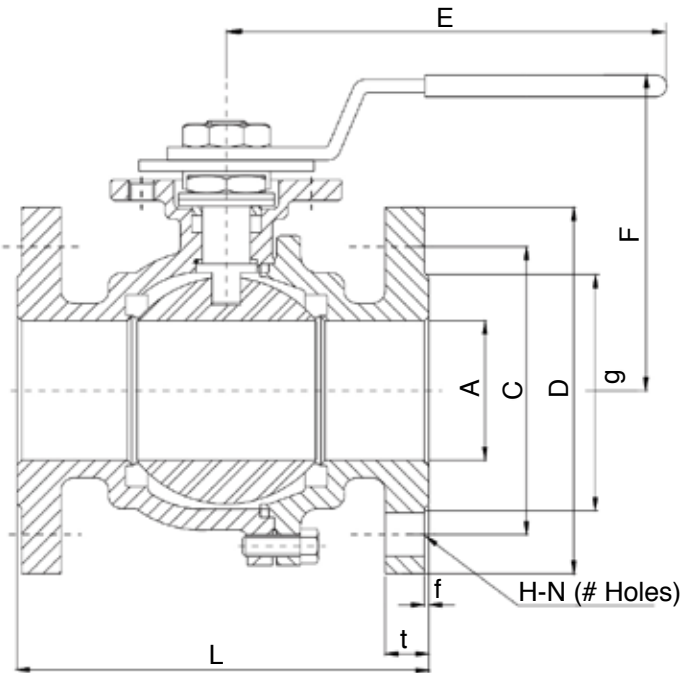
Size	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
Grease	49	64	78	115	177	212	478	549	1097
Non-Grease	64	83	117	161	266	319	841	1168	2168

Note 1: The grease J Flow Control uses include lubricants and anti-seize grease that are both SILICONE-FREE

Note 2: J Flow Controls strongly suggests increasing the torque at least 20% - 40% (depending on seat material) for safety factor when mounting an actuator

## OBDM2500 Flanged Valves

### DIMENSIONS ANSI 300 (1/2" - 4")



Size (in)	A	F	E	L	K	M	G	J	Class 300# Flanged Dimensions								
									D	C	H	N	t	g	B	O	f
1/2	0.59	2.99	5.71	5.50	0.26	1.65	M5	0.39	3.74	2.62	0.63	4	0.57	1.38	0.55	0.42	0.06
3/4	0.79	3.15	5.71	6.00	0.26	1.65	M5	0.39	4.61	3.25	0.75	4	0.63	1.69	0.56	0.43	0.06
1	0.98	3.46	7.68	6.50	0.38	1.97	M6	0.55	4.88	3.50	0.75	4	0.69	2.01	0.85	0.66	0.06
1-1/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-1/2	1.50	4.49	7.50	7.50	0.38	2.76	M8	0.71	6.14	4.51	0.87	4	0.83	2.87	0.98	0.71	0.06
2	1.97	4.84	8.50	8.50	0.38	2.76	M8	0.71	6.50	5.00	0.79	8	0.89	3.62	0.94	0.77	0.06
2-1/2	2.56	5.59	9.50	9.50	0.47	4.02	M10	0.79	7.48	5.87	0.87	8	1.00	4.13	0.90	0.64	0.06
3	3.15	5.98	11.13	11.13	0.47	4.02	M10	0.79	8.27	6.61	0.87	8	1.14	5.00	0.86	0.64	0.06
4"	3.94	7.17	12.00	12.00	0.59	4.02	M10	0.94	10.00	7.87	0.87	8	1.26	6.18	1.17	0.96	0.06

### BREAK-TORQUE VALUE (IN-LB AT 0 PSI) - CLASS 300

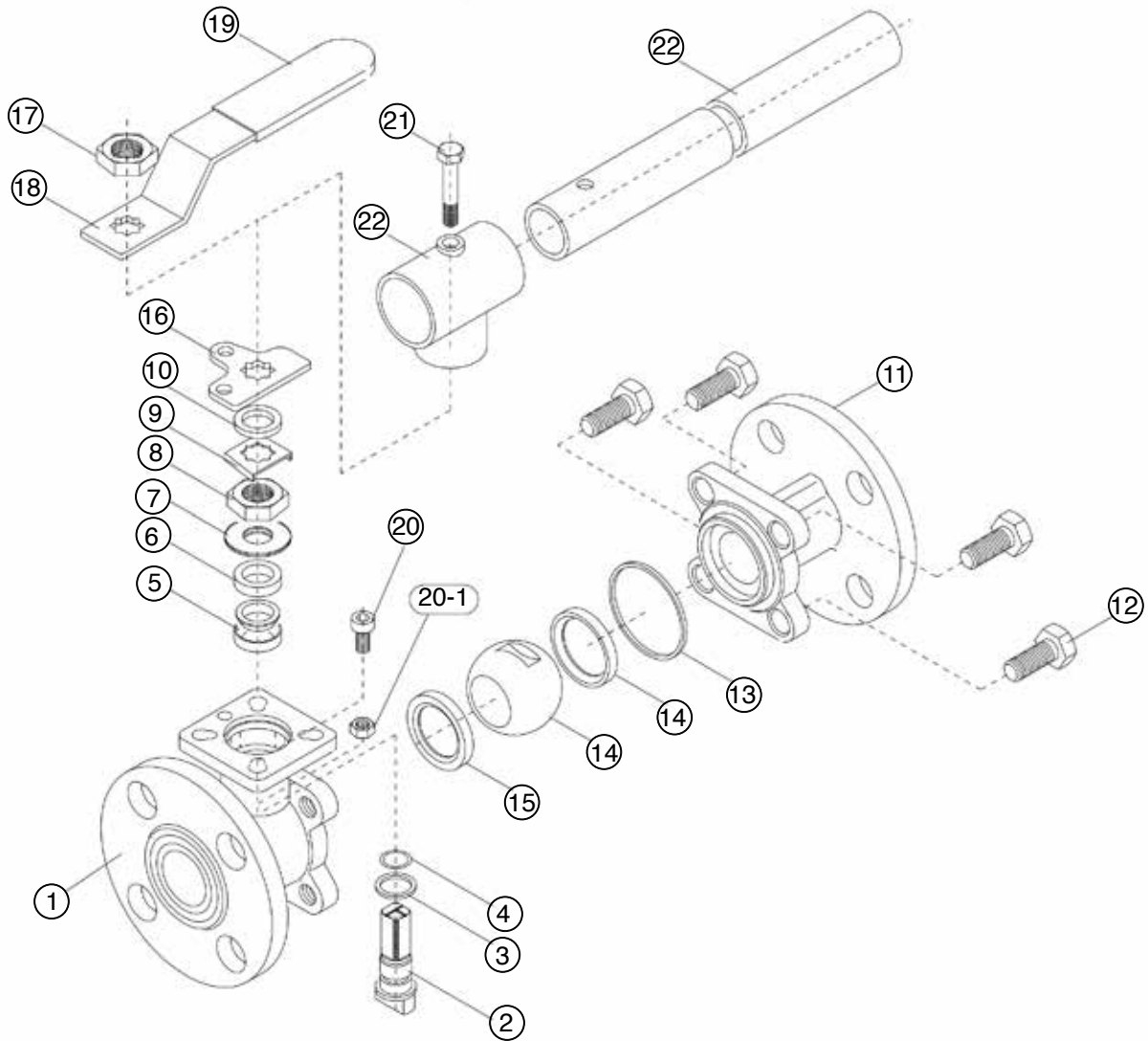
Size	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
Grease	73	87	113	-	238	298	631	749	1385
Non-Grease	102	121	170	-	238	537	1262	1572	2909

Note 1: The grease J Flow Control uses include lubricants and anti-seize grease that are both SILICONE-FREE

Note 2: J Flow Controls strongly suggests increasing the torque at least 20% - 40% (depending on seat material) for safety factor when mounting an actuator

## OBDM2500 Flanged Valves

### PARTS IDENTIFICATION (1/2" - 4")



Part No.	Name	Stainless Steel	Carbon Steel	Part No.	Name	Stainless Steel	Carbon Steel
1	Body	CF8M	A216 WCB	13	Gasket	TFM	TFM
2	Stem	316SST	304SST	14	Ball	316SST	304SST
3	Thrust Washer	TFM	TFM	15	Ball Seat	TFM	TFM
4	O-ring	Viton	Viton	16	Stopper Plate	304SST	304SST
5	Stem Bearing	TFM	TFM	17	Handle Nut	304SST	304SST
6	Gland	304SST	304SST	18	Handle	304SST	304SST
7	Stem Washer	301SST	301SST	19	Sleeve	Vinyl	Vinyl
8	Stem Nut	304SST	304SST	20	Stop Pin	304SST	304SST
9	Nut Stop	304SST	304SST	21	Set Bolt	304SST	304SST
10	Washer	304SST	304SST	22	Lever Head	CF8	CF8
11	Flanged End	CF8M	A216 WCB	23	Pipe Handle	Steel Pipe	Steel Pipe
12	Bolt	304SST	304SST				





## FEATURES & BENEFITS (5" - 12")

- Body & end caps sand casting
- Available in Stainless & Carbon Steel
- ISO 5211 mounting pad
- Adjustable stem packing
- Blow-out proof stem design
- 100% air tested under water at 80 - 100 psi
- Working pressure of Class 150 / 300
- Temperature range: -320°F to 800°F

## FLOW COEFFICIENT

Size	Cv Factor
5"	3350
6"	5000
8"	10000
10"	15000
12"	21000

## BREAK-TORQUE VALUE (IN-LB AT 0 PSI)

Size	5"	6"	8"	10"	12"
Grease	2036	2213	4868	5753	10620
Non-Grease	-	-	-	-	-

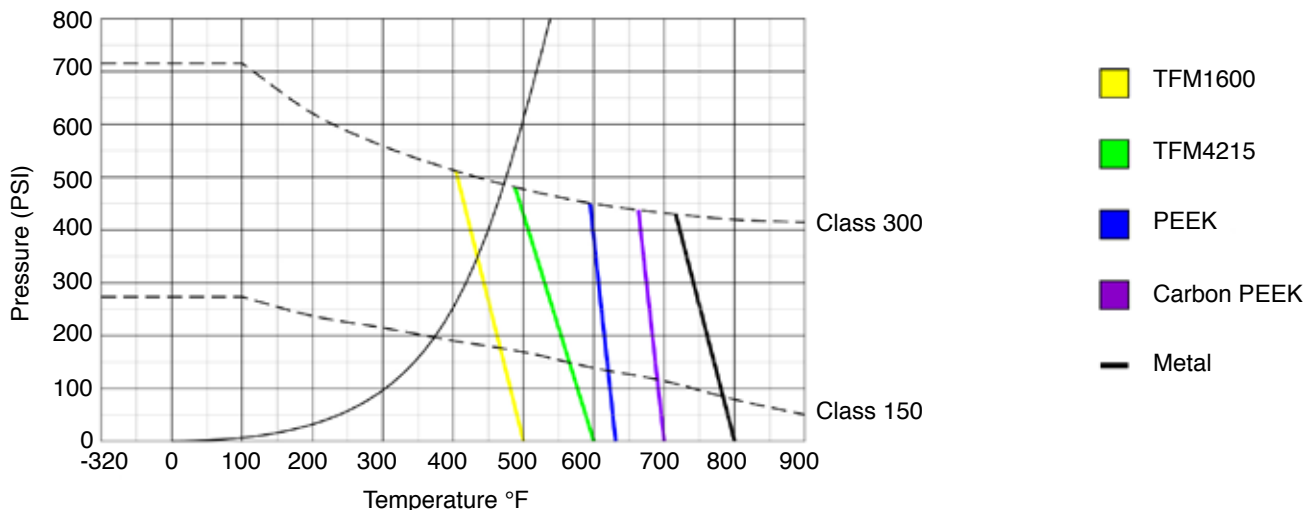
Note 1: The grease J Flow Control uses include lubricants and anti-seize grease that are both SILICONE-FREE

Note 2: J Flow Controls strongly suggests increasing the torque at least 20% - 40% (depending on seat material) for safety factor when mounting an actuator

## Options (5" - 12")

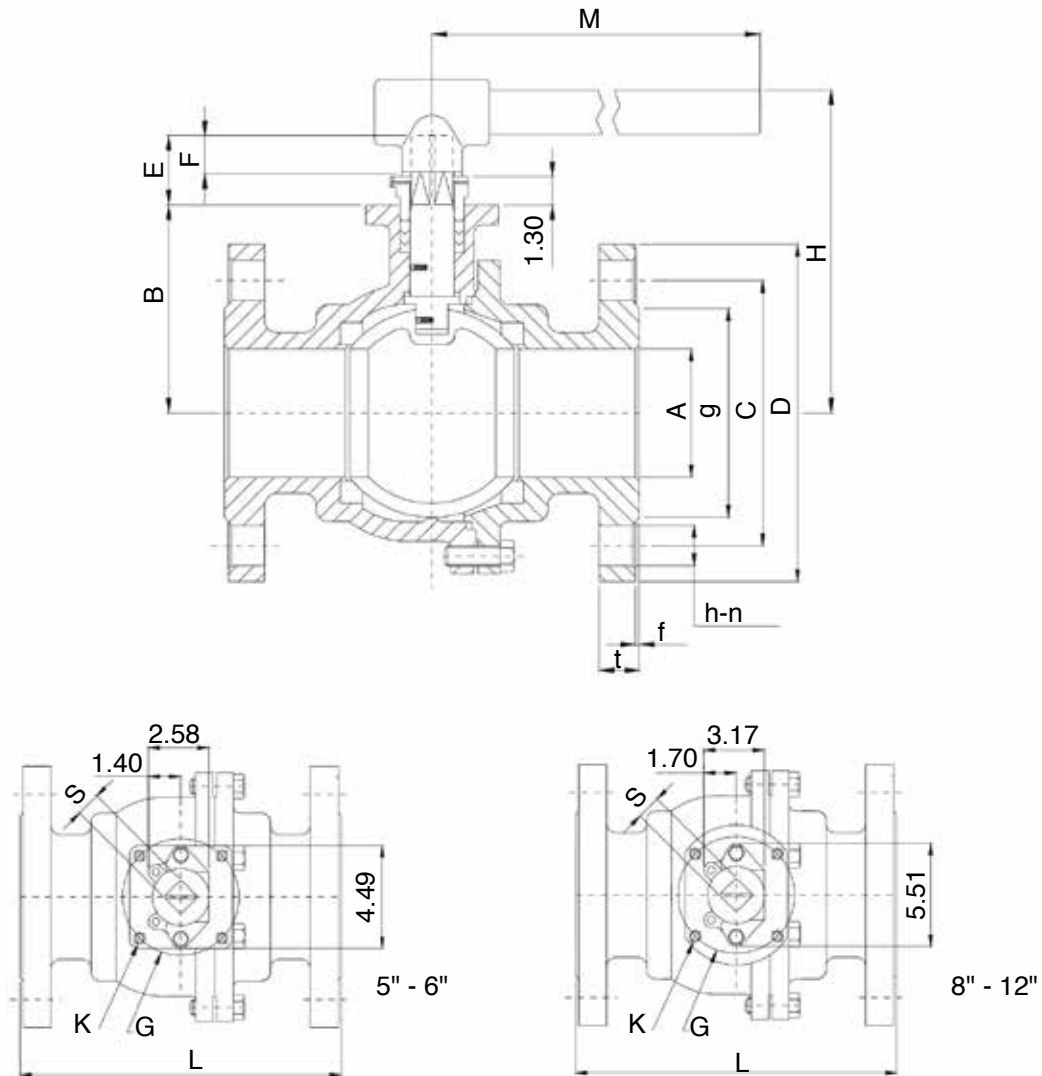
- Fire safe design
- Gear operator / pneumatic and electric actuator
- PTFE cavity filler
- PTFE coating (40 - 70 um)
- Direct mount bracket
- Alloy 20 / Monel / Titanium / Hastelloy C / Super Duplex
- V-ball for control valve in 30°, 60°, 90°, and custom
- Cryogenic valves
- Fugitive emissions bonnet
- Metal seated

## PRESSURE / TEMPERATURE CHART



# OB2500 Flanged Valves

## DIMENSIONS



## DIMENSIONS ANSI 150 5" - 12"

Size (in)	A	B	E	F	G	H	M	L	K	S	Class 150# Flanged Dimensions						
											D	C	n	h	g	t	f
5	4.92	5.91	2.28	1.34	4.92	10.43	27.56	14.02	M12	1.06	10.00	8.50	8	0.87	7.32	0.94	0.06
6	5.91	6.69	2.28	1.34	4.92	11.22	33.46	15.51	M12	1.06	10.98	9.51	8	0.87	8.50	1.00	0.06
8	7.87	8.62	2.52	1.50	4.92	13.94	43.31	17.99	M12	1.42	13.50	11.75	8	0.87	10.63	1.13	0.06
10	9.84	10.04	2.52	1.50	4.92	15.35	47.24	20.98	M12	1.42	15.98	14.25	12	0.98	12.76	1.19	0.06
12	11.81	12.09	3.11	1.81	5.51	17.40	59.06	24.02	M16	1.42	19.02	17.01	12	0.98	15.00	1.25	0.06

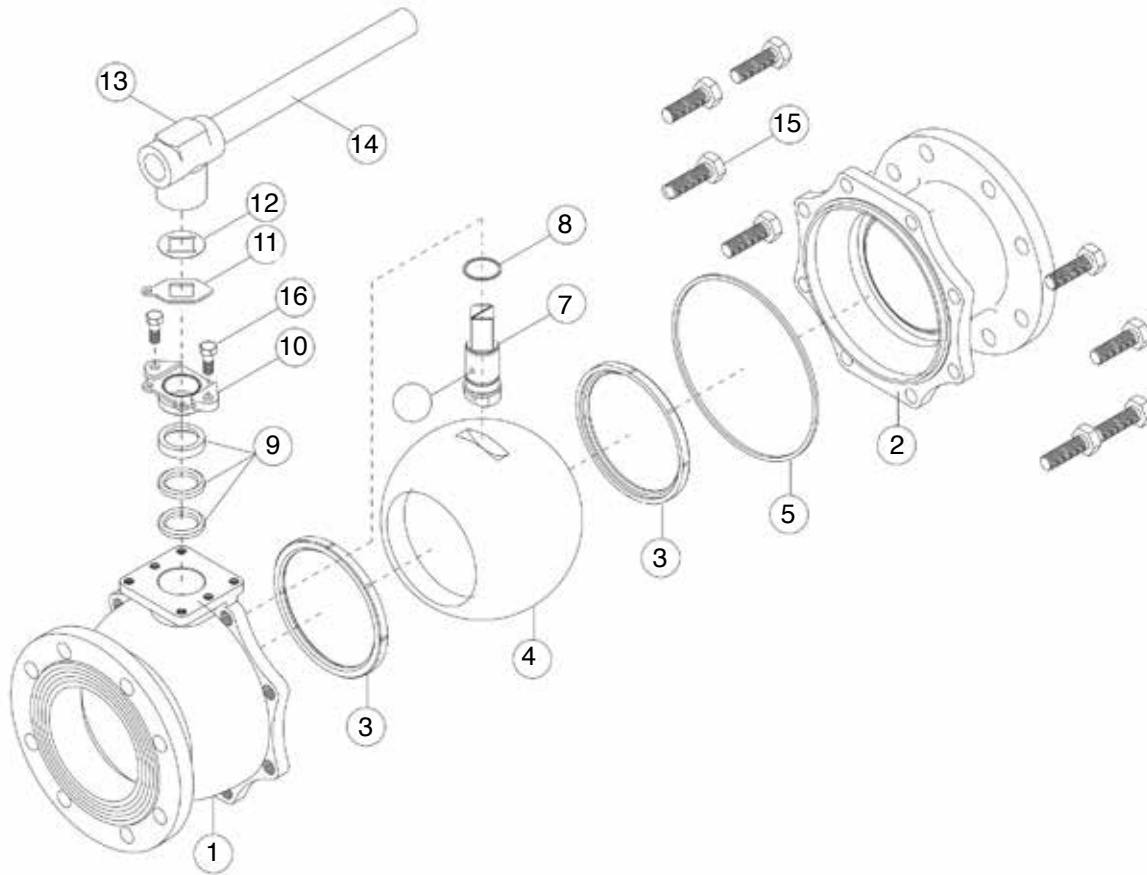
## DIMENSIONS ANSI 300 6" - 8"

Size (in)	A	B	E	F	G	H	M	L	K	S	Class 300# Flanged Dimensions						
											D	C	n	h	g	t	f
6	5.91	6.87	2.11	1.24	4.92	11.34	33.46	15.87	M12	1.06	12.52	10.63	12	0.87	8.50	1.46	0.06
8	7.87	8.64	2.52	1.50	4.92	13.50	43.31	19.76	M12	1.42	15.00	13.00	12	1.02	10.63	1.63	0.06



## OB2500 Flanged Valves

### PARTS IDENTIFICATION (5" - 12")



Part. No.	Name	Material
1	Body	CF8M / WCB
2	Flanged End	CF8M / WCB
3	Ball Seat	TFM 1600
4	Ball	SS316
5	Gasket	TFM 1600
6	Anti-Static	SS316
7	Stem	SS316
8	Thrust Washer	TFM1600
9	Stem Packing	TFM1600
10	Gland	SS304
11	Stopper	SS304
12	Stopper Plate	SS304
13	Lever Head	CF8
14	Pipe Handle	Steel Pipe
15	Bolt	SS304
16	Gland Bolt	SS304

## OB2500 Flanged Valves

### HOW TO ORDER

Sizes		Series	Firesafe	Body <sup>1</sup> , Ball & Stem		Port		Body Seal	
<b>3</b>	1/2"	<b>25</b>	<b>F</b>	<b>00</b>	CF8	<b>F</b>	Full Port	<b>T</b>	TFM 1600
<b>4</b>	3/4"			<b>0L</b>	CF3	<b>R</b>	Reduced Port	<b>C</b>	TFM4215
<b>5</b>	1"			<b>23</b>	WCB, CF8M Ball & Stem	<b>1</b>	15° V-Ball	<b>G</b>	Graphite
<b>0</b>	1-1/4"			<b>33</b>	CF8M	<b>3</b>	30° V-Ball		
<b>6</b>	1-1/2"			<b>44</b>	Alloy 20	<b>6</b>	60° V-Ball		
<b>7</b>	2"			<b>55</b>	Monel	<b>9</b>	90° V-Ball		
<b>8</b>	2-1/2"			<b>6L</b>	CF3M				
<b>9</b>	3"			<b>77</b>	Hastelloy C				
<b>A</b>	4"			<b>88</b>	LCB				
<b>C</b>	6"			<b>83</b>	LCB, CF8M Ball & Stem				
<b>E</b>	8"			<b>99</b>	Duplex				
<b>F</b>	10"								
<b>G</b>	12"								

Packing		Seat		End Connection		Options	
<b>T</b>	TFM 1600	<b>U</b>	UHMWPE	<b>F1</b>	ANSI 150 RF Flange	<b>CF</b>	Cavity-Filled Seats
<b>C</b>	TFM4215	<b>T</b>	TFM 1600	<b>F3</b>	ANSI 300 RF Flange	<b>LD</b>	Locking Handle
<b>G</b>	Graphite	<b>G</b>	TFM4215	<b>FF</b>	Flat Faced	<b>SH</b>	Spring Handle
		<b>P</b>	PEEK			<b>GO</b>	Gear Operator
		<b>6</b>	Carbon PEEK			<b>BS</b>	Bare Stem
		<b>M</b>	CF8M			<b>FE</b>	Fugitive Emission
		<b>I</b>	Inconel 750			<b>SJ</b>	Steam Jacket
						<b>VB</b>	Vented Ball

<sup>1</sup> Please see the J Flow Controls Configurator for a full list of design material and accessory options

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