

DMOB2500 Series

Flanged V-Ball Control Valves

Features & Benefits

- Available in stainless steel or carbon steel
- Body and end are investment case
- Self-adjusting stem packing
- Blow-out proof stem design
- 100% air tested under water at 100 psi
- Working pressure ANSI 150
- Temperature range: -40°F to +450°F
- ISO 5211 mounting pad
- End cap type: flange end (ANSI 150)
- Flange dimension: face-to-face ANSI B16.10; flange connection ANSI B16.50
- Silicone free
- Oxygen cleaned option



Size	Breakaway Torque (in-lb)	Cv	Weight Lbs
1/2"	50	32	9
3/4"	75	54	10
1"	100	105	12
1-1/2"	185	275	18
2"	300	460	25
2-1/2"	450	780	36
3"	750	1330	50
4"	1100	2420	69
6"	3500	5400	189



Ordering Schematic

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Orifice Ball	Series	Material	Port	Packing	Seat	End Connections
Slot	DMOB25	23 Carbon Steel	F Full Port	C Carbon/Teflon	C Carbon	F1 Flanged 150
15°		33 Stainless Steel	R Reduced Port	G Graphite	T Teflon	F3 Flanged 300
30°		44 Alloy 20		T Teflon	TM Super Teflon	
45°		77 Hastalloy C			TC Carbon-Super Teflon	
60°		99 Duplex			M Metal Seated	
90°						
Special						

J-Flow Controls

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Engineering

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

Engineering

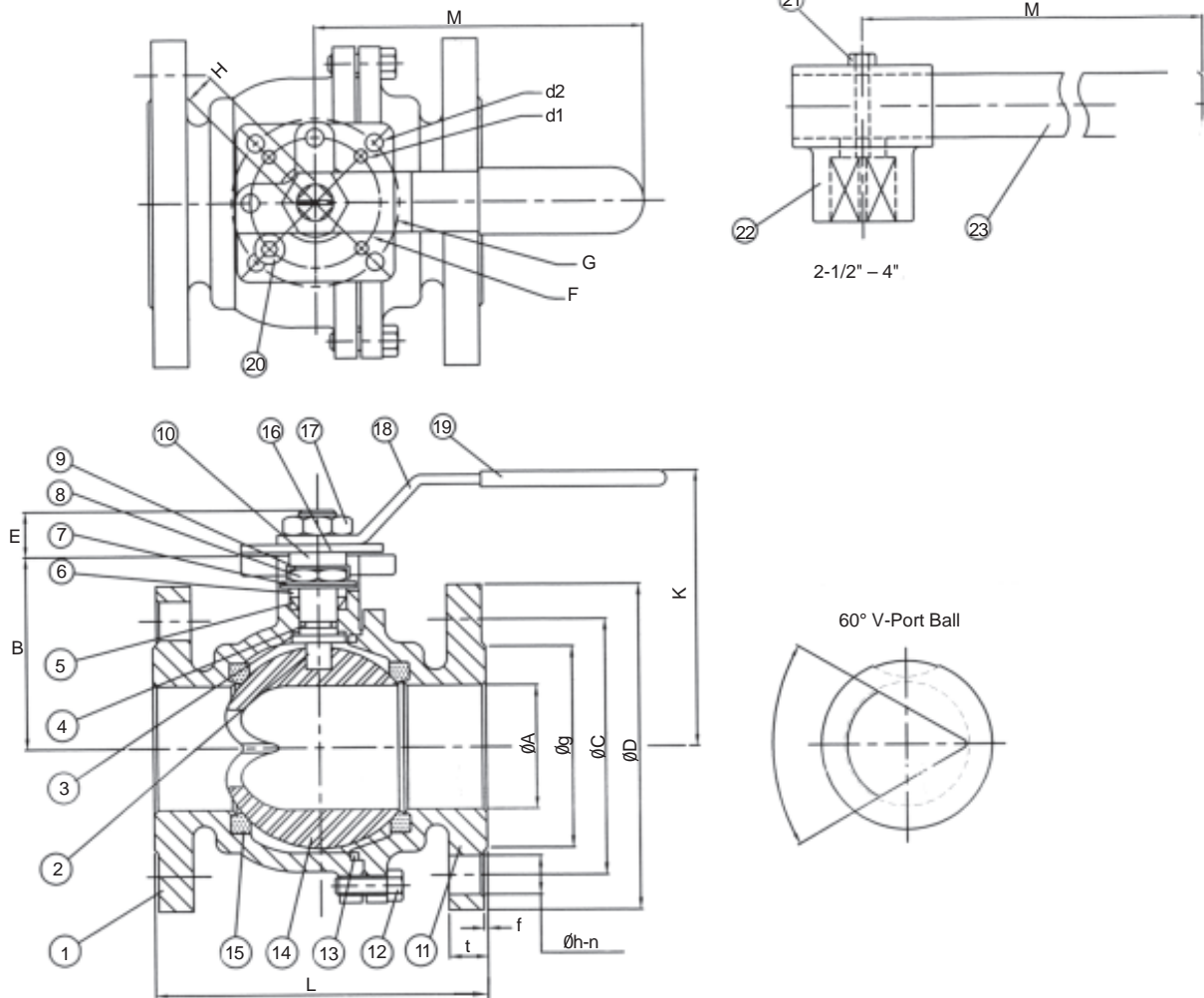
V-Control Ball Valve Flow Coefficient Cv Charts

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

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	1.0	3.7	7.3	11.5	16.1	20.8	25.5	30
3/4"	0	0	0.1	4.0	8.7	15.3	22.9	30.9	39.2	47.3	55
1"	0	0	0.0	4.4	14.3	26.9	41.6	57.3	73.6	89.7	105
1-1/4"	0	0	0.6	12.8	32.3	56.5	83.9	113.0	142.9	172.3	200
1-1/2"	0	0	1.7	19.5	46.7	79.9	117.3	157.0	197.6	237.5	275
2"	0	0	15.4	54.2	105.5	165.6	231.2	299.8	369.0	436.4	500

Engineering

Dimensions (1/2" - 4")

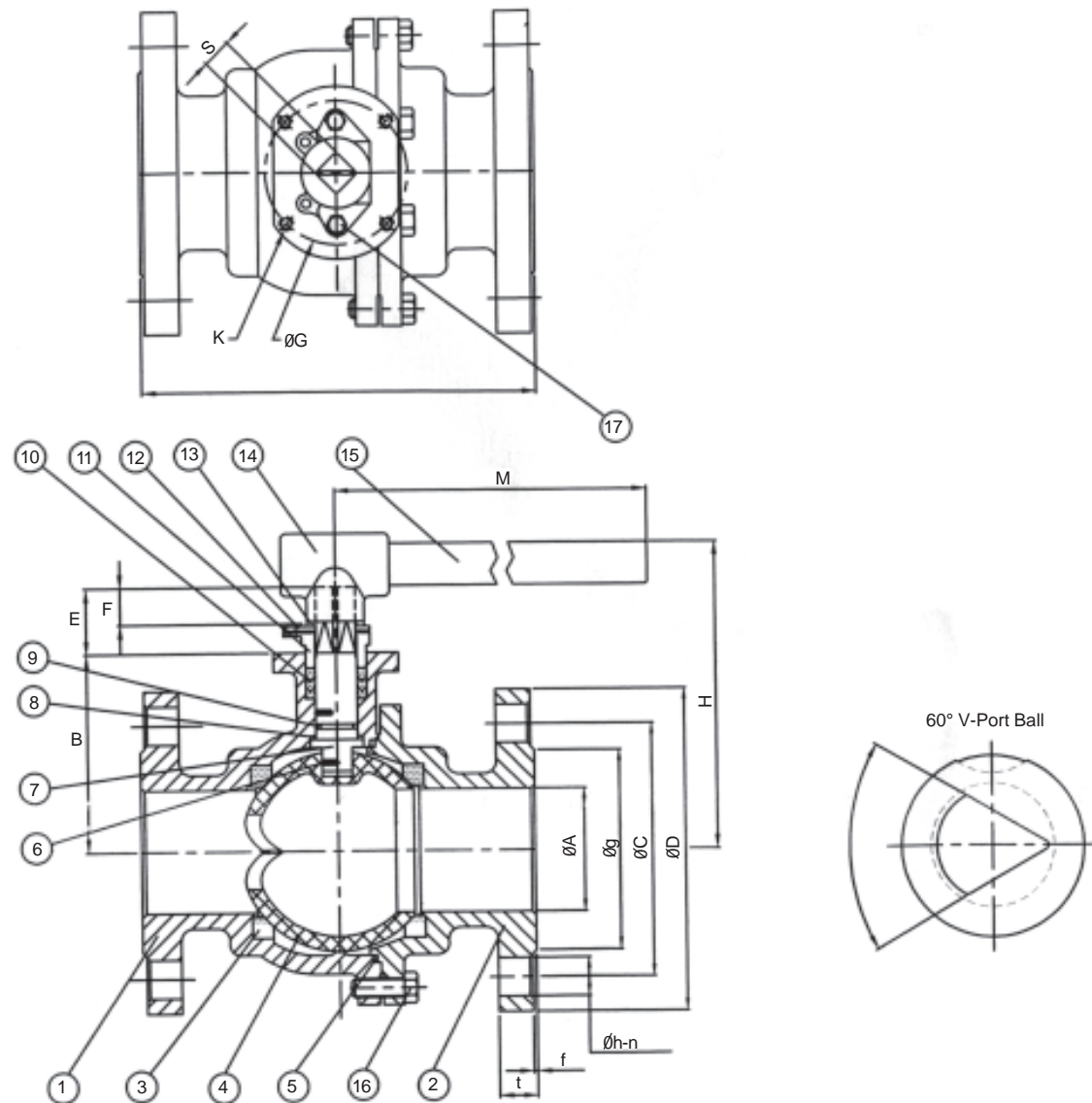


No.	Parts Name	Stainless	Carbon Steel	No.	Parts Name	Stainless	Carbon Steel
1	Body	CF8M/Din 1.4408	ASTM A216 Gr. WCB	13	Gasket	PTFE	PTFE
2	Stem	SS316	SS316	14	60° V-Port Ball	SS316	SS304
3	Thrust Washer	RPTFE	RPTFE	15	Ball Seats	PTFE/RPTFE	PTFE/RPTFE
4	O-Ring	Viton	Viton	16	Stopper	SS304	SS304
5	Stem Packing	PTFE	PTFE	17	Handle Nut	SS304	SS304
6	Gland	SS304	SS304	18	Handle	SS304	SS304
7	Disk Washer	SS301	SS301	19	Handle Cover	Vinyl Plastisol	Vinyl Plastisol
8	Stem Nut	SS304	SS304	20	Position Pin	SS304	SS304
9	Nut Lock	SS 304	SS 304	21	Set Bolt	SS304	SS304
10	Washer	SS 304	SS 304	22	Lever Head	CF8	CF8
11	Flange Cap	ASTM A351 Gr. CF8M	ASTM A216 Gr. WCB	23	Lever	Steel Pipe	Steel Pipe
12	Bolts	SS304	SS304				

Size	A	B	E	L	H	K	M	F	G	d1	d2	Flange Dimensions (Class 150)						
												D	Bolt Hole			t	g	f
													c	h	n			
1/2"	063	1.89	0.43	4.25	0.35	3.15	5.12	1.42	1.65	0.24	0.24	3.50	2.38	0.63	0.16	0.45	1.38	0.06
3/4"	0.79	2.09	0.43	4.61	0.35	3.15	5.12	1.42	1.65	0.24	0.24	3.86	2.76	0.63	0.16	0.45	1.69	0.06
1"	0.98	2.32	0.55	5.00	0.43	3.54	6.50	1.65	1.97	0.24	0.28	4.25	3.13	0.63	0.16	0.45	2.01	0.06
1-1/4"	1.26	2.80	0.55	5.51	0.43	4.02	6.50	1.65	1.97	0.24	0.28	4.61	3.50	0.63	0.16	0.50	2.52	0.06
1-1/2"	1.50	2.99	0.71	6.50	0.55	4.33	8.07	1.97	2.76	0.28	0.36	5.00	3.88	0.63	0.16	0.56	2.87	0.06
2"	1.97	3.35	0.71	7.01	0.55	4.72	8.07	1.97	2.76	0.28	0.36	5.98	4.74	0.75	0.16	0.63	3.62	0.06
2-1/2"	2.56	3.70	0.91	7.48	0.67	5.51	11.81	2.76	4.02	0.36	0.45	7.01	5.49	0.75	0.16	0.70	4.13	0.06
3"	3.15	4.05	0.91	7.99	0.67	5.91	13.39	2.76	4.02	0.36	0.45	7.48	6.00	0.75	0.16	0.75	5.00	0.06
4"	3.94	5.20	0.98	9.02	0.87	7.09	16.54	4.02	4.92	0.45	0.53	9.02	7.50	0.75	0.31	0.94	6.18	0.06

Engineering

Dimensions (5" & 6")

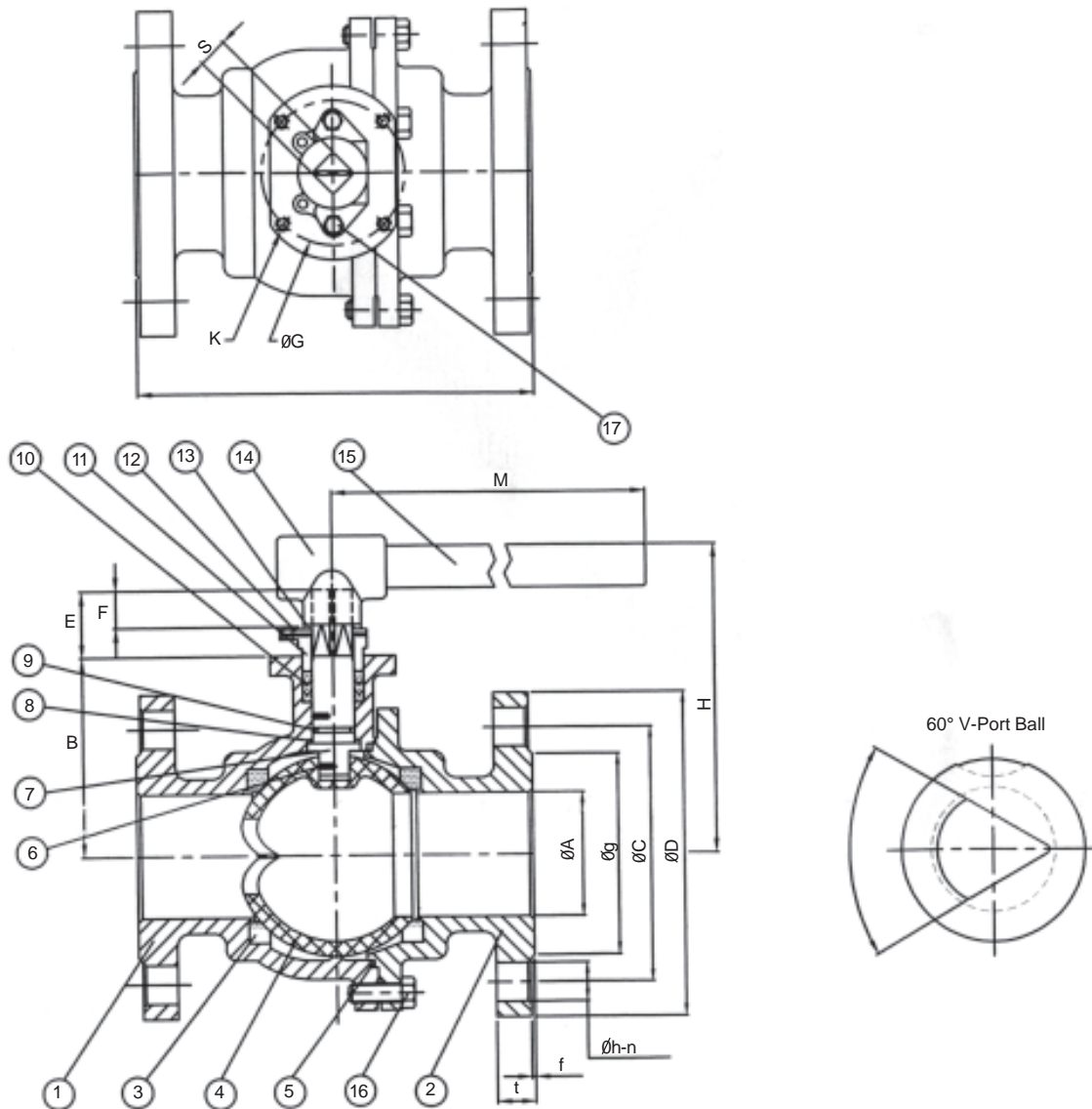


No.	Name of Parts	Std. Materials	Options		No.	Name of Parts	Std. Materials	Options	
1	Body	A351 Gr. CF8M	A351 Gr. CF8	A216 Gr. WCB	10	Stem Packing	PTFE	—	—
2	End Cap	A351 Gr. CF8M	A351 Gr. CF8	A216 Gr. WCB	11	Gland	CF8	—	—
3	Ball Seats	PTFE/RPTFE	PTFE/RPTFE	—	12	Stopper	SS 304	—	—
4	60° V-port Ball	SS 316 or CF8M	SS 304 or CF8	—	13	Stop Plate	SS 304	—	—
5	Gasket	PTFE	—	—	14	Handle Head	FCD45	—	—
6	Anti-static	SS 316	—	—	15	Handle Tube	CS	—	—
7	Stem	SS 316	SS 304	—	16	Hex Bolts	SS 304	—	CS
8	Thrust Washer	PTFE	—	—	17	Gland Bolt	SS 304	—	—
9	O-Ring	Viton	—	—					

Size	A	B	E	F	G	H	M	L	K	S	ANSI 150 (flange)						
											D	C	n	h	g	t	f
5"	4.92	5.91	2.28	13.15	4.92	10.43	27.56	14.02	M12	1.10	10.00	7.50	0.31	0.87	7.32	0.94	0.06
6"	5.91	6.69	2.28	13.15	4.92	11.22	33.46	15.51	M12	1.10	10.98	9.51	0.31	0.87	8.50	1.00	0.06

Engineering

Dimensions (8" - 12")



No.	Name of Parts	Std. Materials	Options		No.	Name of Parts	Std. Materials	Options	
1	Body	A351 Gr. CF8M	A351 Gr. CF8	A216 Gr. WCB	10	Stem Packing	PTFE	—	—
2	End Cap	A351 Gr. CF8M	A351 Gr. CF8	A216 Gr. WCB	11	Gland	CF8	—	—
3	Ball Seats	PTFE/RPTFE	PTFE/RPTFE	—	12	Stopper	SS 304	—	—
4	60° V-port Ball	SS 316 or CF8M	SS 304 or CF8	—	13	Stop Plate	SS 304	—	—
5	Gasket	PTFE	—	—	14	Handle Head	FCD45	—	—
6	Anti-static	SS 316	—	—	15	Handle Tube	CS	—	—
7	Stem	SS 316	SS 304	—	16	Hex Bolts	SS 304	—	CS
8	Thrust Washer	PTFE	—	—	17	Gland Bolt	SS 304	—	—
9	O-Ring	Viton	—	—					

Size	A	B	E	F	G	H	M	L	K	S	ANSI 150 (flange)						
											D	C	n	h	g	t	f
8"	7.87	8.62	2.52	1.50	4.92	13.94	43.31	17.99	M12	1.42	13.50	11.75	0.31	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	0.47	0.98	12.76	1.19	0.06
12"	11.81	12.09	3.11	1.81	5.51	17.40	59.05	24.02	M16	1.42	19.02	17.00	0.47	0.98	15.00	1.25	0.06