

10000F-xxx Series Full Port Valve



Quick Spec	
Product Scope	
Size Range	1/4" – 2", Full Port (Sch 160 Pipe Bore) 2" Reduced; 3" Double Reduced
Body Type	3-pc, non Swing-out design, Optional Ends
Pressure Rating	up to 6000 psi WOG & up to ASME Class 2500
Temperature Range / WSP	-20°F up to 550°F / up to 450 psi steam -29°C up to 288°C / up to 31 bar steam
Body, Ball, Stem Material	Standard & Special alloys
Ball Seats	Delrin, PEEK, CPEEK
Stem Packing	Adjustable, Live Loaded PTFE or Graphite
Body Seals	Graphite
Operator / Mounting Pad	Manual Lever, with Optional Lock
Design Standards	
Design / Face-to-Face Design	ASME B16.34* / ANSI B16.10
Flange / Thread / Weld Design	ASME B16.5 / ASME B1.20.1 / ASME B16.11
Testing Standards	
Pressure Testing	API 598
Approvals	
ISO 9001:2008 Certified Manufacturer	
NQA-1 Compliant Quality System	
Canadian Registration Numbers available on Website**	

Features

- Up to 6000 psi service
- Special barstock body material options including Alloy 20, duplex, Hastelloy C, Monel, Titanium, 254 SMO, Bronze, and others
- Special end connection options, including extended weld ends, RTJ flanges, DIN flanges, SAE Code 61 / 62 flanges, SAE O-ring, Grayloc, Tube End, and others
- ISO 5211 mounting pad
- Triple sealed blow-out proof stem
- Adjustable, live-loaded stem packing
- Deep pocketed resilient seats
- Double body - end cap seals
- Enclosed end cap bolts threaded into body
- Statically grounded
- Lockout option
- 100% shell and seat pressure tested per ASME B16.34 / API 598

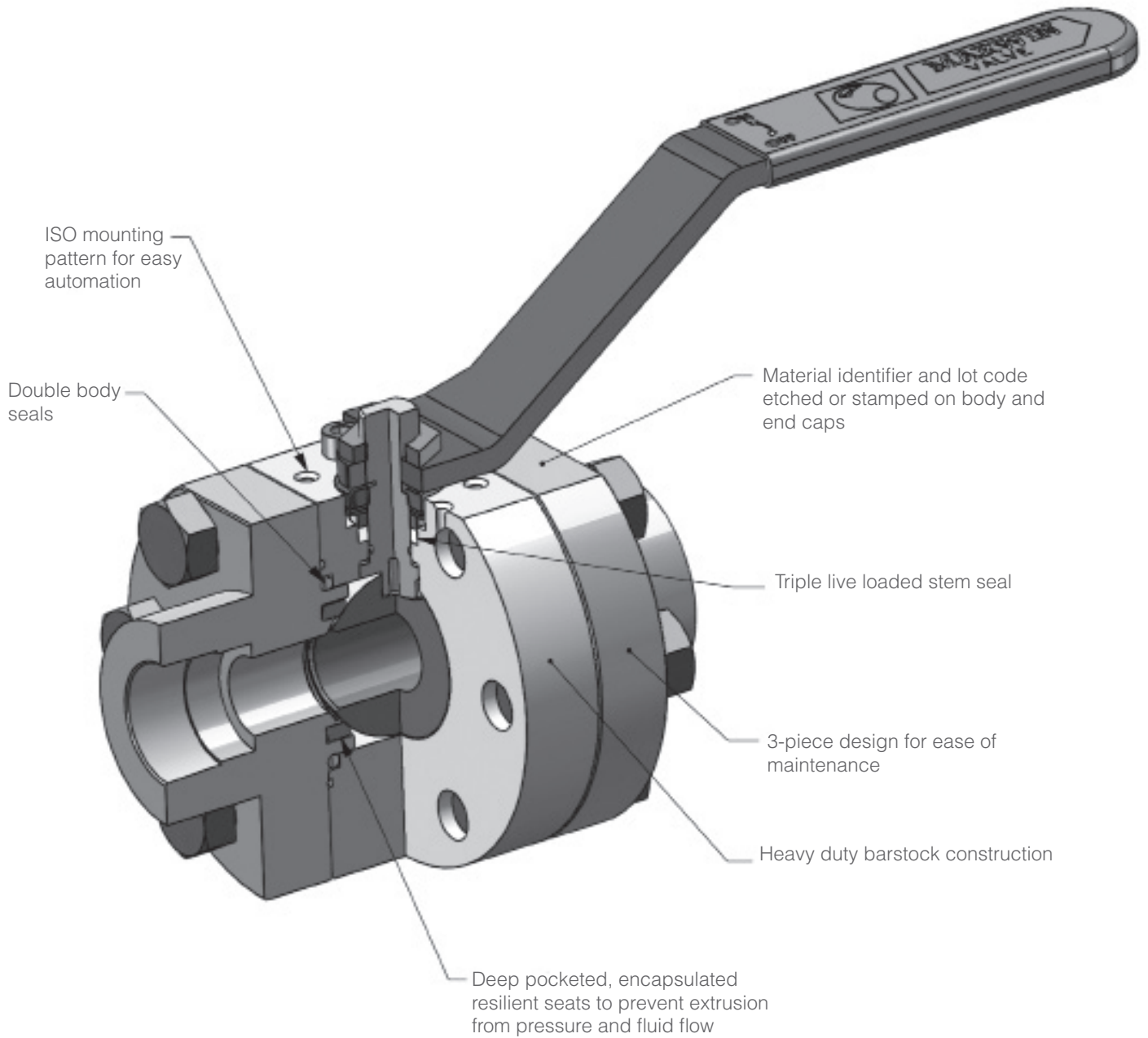
Materials of Construction		
Part	Carbon Steel	Stainless Steel
Body	A105	A479 Type 316
End Cap	A105	A479 Type 316
Bolt, Body	A194-B7	A194-B8
Ball	AISI 316SS	
Seat	Delrin, PEEK, CPEEK	
Stem	A479-316 or ASTM-A564-630 (17-4PH)	
Anti-Static Spring	316SS	
Anti-Static Pin	316SS	
Seal, Body	Viton or Graphite	
Secondary Seal, Body	Viton or Graphite	
Thrust Washer	CRPTFE (Delrin Seats) or PEEK (PEEK, CPEEK)	
O-Ring, Stem	Viton	
Packing	Graphite	
Gland, Packing	316SS	
Belleville Washer, Stem	17-7PH	
Nut, Stem	304SS	
Lock Washer, Stem	SST	
Handle	Steel	
Cover, Handle	Vinyl	
Nut, Handle	304SS	

* ASME B16.34 Class Ratings

1/4" - 1"F — Class 2500 (6170 psi, CS / 6000 psi SS @ 100°F)
 1-1/4" - 3"F — Class 1500 (3705 psi, CS / 3600 psi SS @ 100°F)

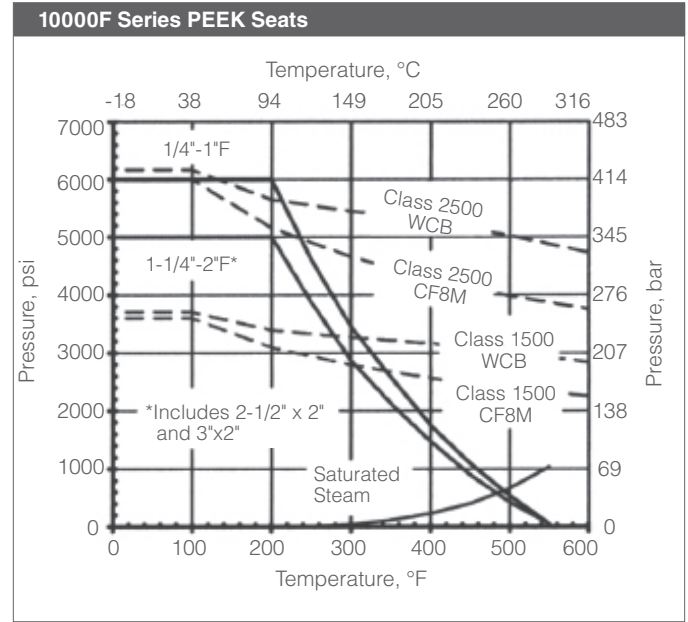
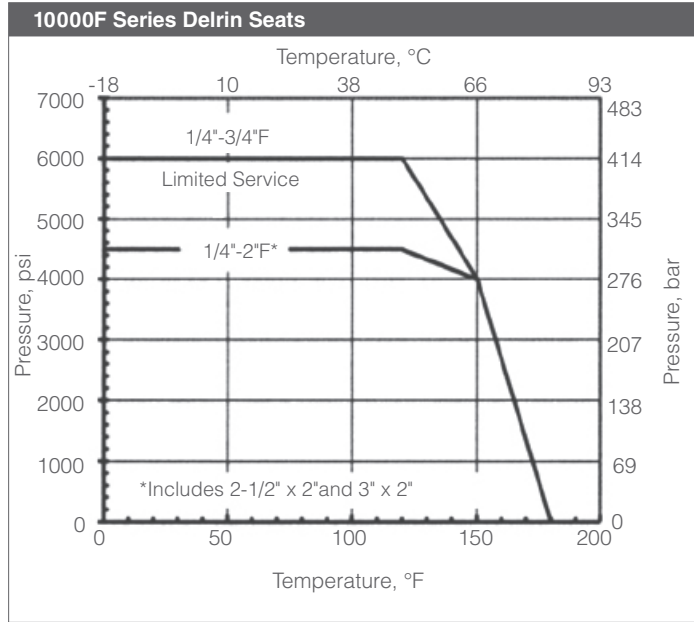
** Use ASME B16.34 ratings for CRN

Key Features



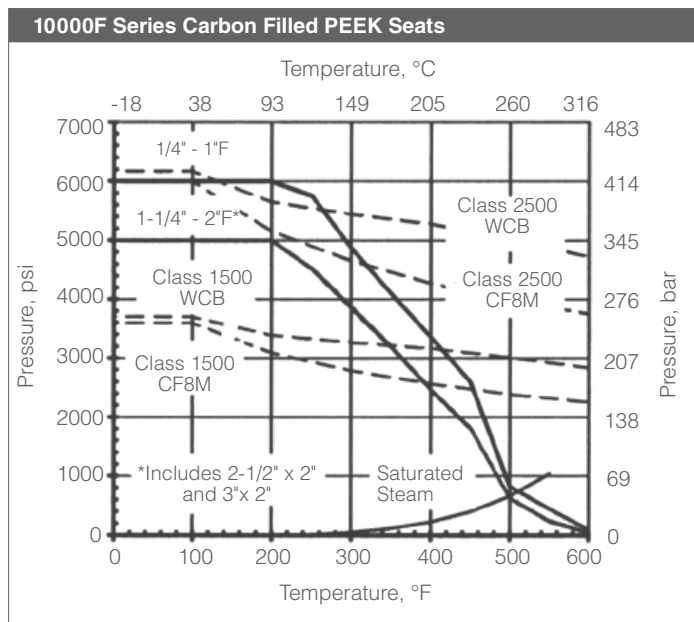
ART 1124

Pressure / Temperature Limits



Delrin: Acetal Homopolymer – Delrin is a thermoplastic with high mechanical strength and stiffness, good dimensional stability, low friction, and good wear and abrasion resistance. It is used for higher pressure at moderate temperatures over a limited range of chemical applications. (Creamy white, -20°F to +180°F)

PEEK: PolyEtherEtherKeytone – PEEK is a high performance thermoplastic with excellent mechanical properties and chemical resistance. It is available FDA/USDA approved. It is used where higher pressures and temperatures are required. (Tan, -70°F to +550°F)

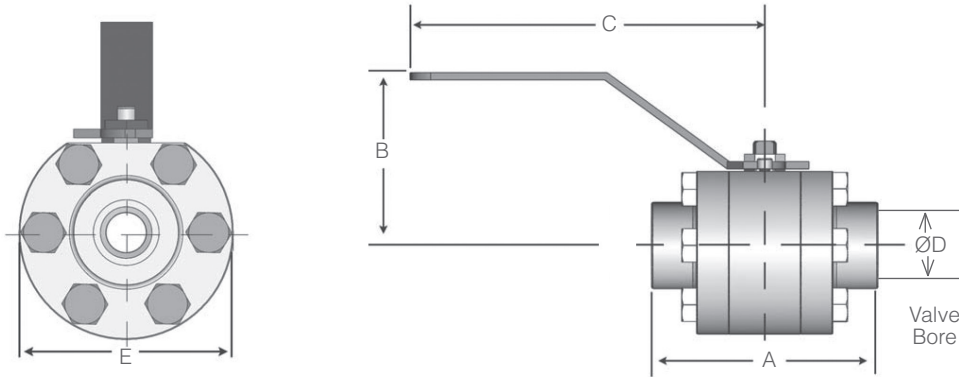


ASME B16.34 / CRN (Body) Ratings:

1/4" - 1": Class 2500

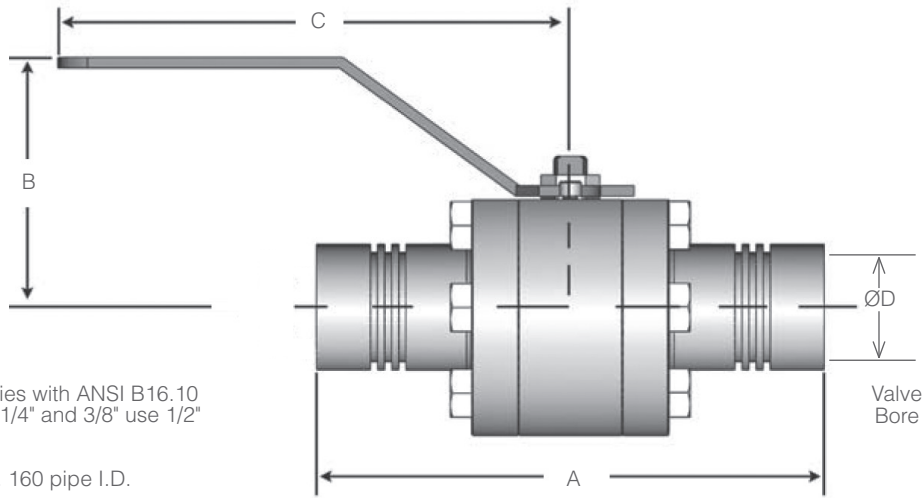
1-1/4" - 3": Class 1500

C-PEEK: 25% Carbon Filled PEEK – Carbon reinforced PEEK provides the maximum compressive strength, stiffness, and wear resistance available. It extends the useable upper temperature compared to unfilled PEEK. (Black, -70°F to +600°F)


Threaded Ends, Standard Length Butt Weld & Socket Weld Ends

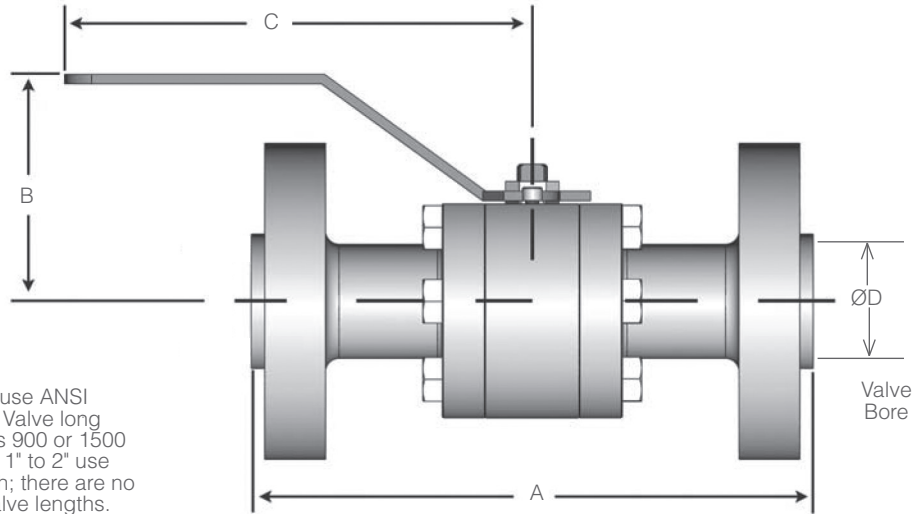
Dimensions, Inches						
Valve Size	Dimensions (in.)					Weight, lbs
	A	B	C	ØD	E	
1/4"	4.36	3.4	7.6	0.44	3.4	6.9
3/8"	4.36	3.4	7.6	0.44	3.4	6.6
1/2"	4.36	3.4	7.6	0.44	3.4	6.4
3/4"	5.54	3.8	7.6	0.61	3.9	11.7
1"	5.54	4.3	8.7	0.83	4.4	16.2
1-1/4"	6.70	6.2	14.8	1.35	5.4	31.9
1-1/2"	6.70	6.2	14.8	1.35	5.4	31.5
2"	7.87	6.4	14.8	1.69	5.9	41.6

Dimensions, Metric						
Valve Size	Dimensions					Weight, kgs
	A	B	C	ØD	E	
DN8	110,7	86	193	11,2	86	3,1
DN12	110,7	86	193	11,2	86	3,0
DN15	110,7	86	193	11,2	86	2,9
DN20	140,7	96	193	15,1	98	5,3
DN25	140,7	109	221	21,1	111	7,3
DN32	170,2	157	376	34,3	136	14,5
DN40	170,2	157	376	34,3	136	14,3
DN50	199,9	164	376	42,9	149	18,9


Extended Butt Weld & Socket Weld Ends (1/4" - 2")
Threaded, Butt Weld & Socket Weld Ends (2-1/2" - 3")

Dimensions, Inches					
Valve Size	Dimensions				Weight, lbs
	A	B	C	ØD	
1/4"	6.50	3.4	7.6	0.44	7.5
3/8"	6.50	3.4	7.6	0.44	7.4
1/2"	6.50	3.4	7.6	0.44	7.3
3/4"	7.50	3.8	7.6	0.61	12.9
1"	8.50	4.5	8.9	0.83	18.7
1-1/4"	9.00	5.5	13.8	1.35	34.9
1-1/2"	9.50	5.5	13.8	1.35	35.4
2"	11.50	5.9	13.8	1.69	47.5
2-1/2" x 2" x 2-1/2"	13.00	5.9	13.8	1.69	55.8
3" x 2" x 3"	14.00	5.9	13.8	1.69	61.5

Dimensions, Metric					
Valve Size	Dimensions				Weight, kgs
	A	B	C	ØD	
DN8	165,1	85	193	11,2	3,4
DN12	165,1	85	193	11,2	3,4
DN15	165,1	85	193	11,2	3,3
DN20	190,5	96	193	15,5	5,9
DN25	215,9	113	225	21,1	8,5
DN32	228,6	140	349	34,3	15,8
DN40	241,3	140	349	34,3	16,1
DN50	292,1	150	349	42,9	21,5
DN65 x DN50 x DN65	330,2	150	349	42,9	25,3
DN80 x DN50 x DN80	355,6	150	349	42,9	27,9



1/2" and 3/4" face-to-face use ANSI B16.10 Class 1500 Globe Valve long pattern; there are no Class 900 or 1500 B16.10 ball valve lengths. 1" to 2" use Class 900 ball valve length; there are no Class 1500 B16.10 ball valve lengths.

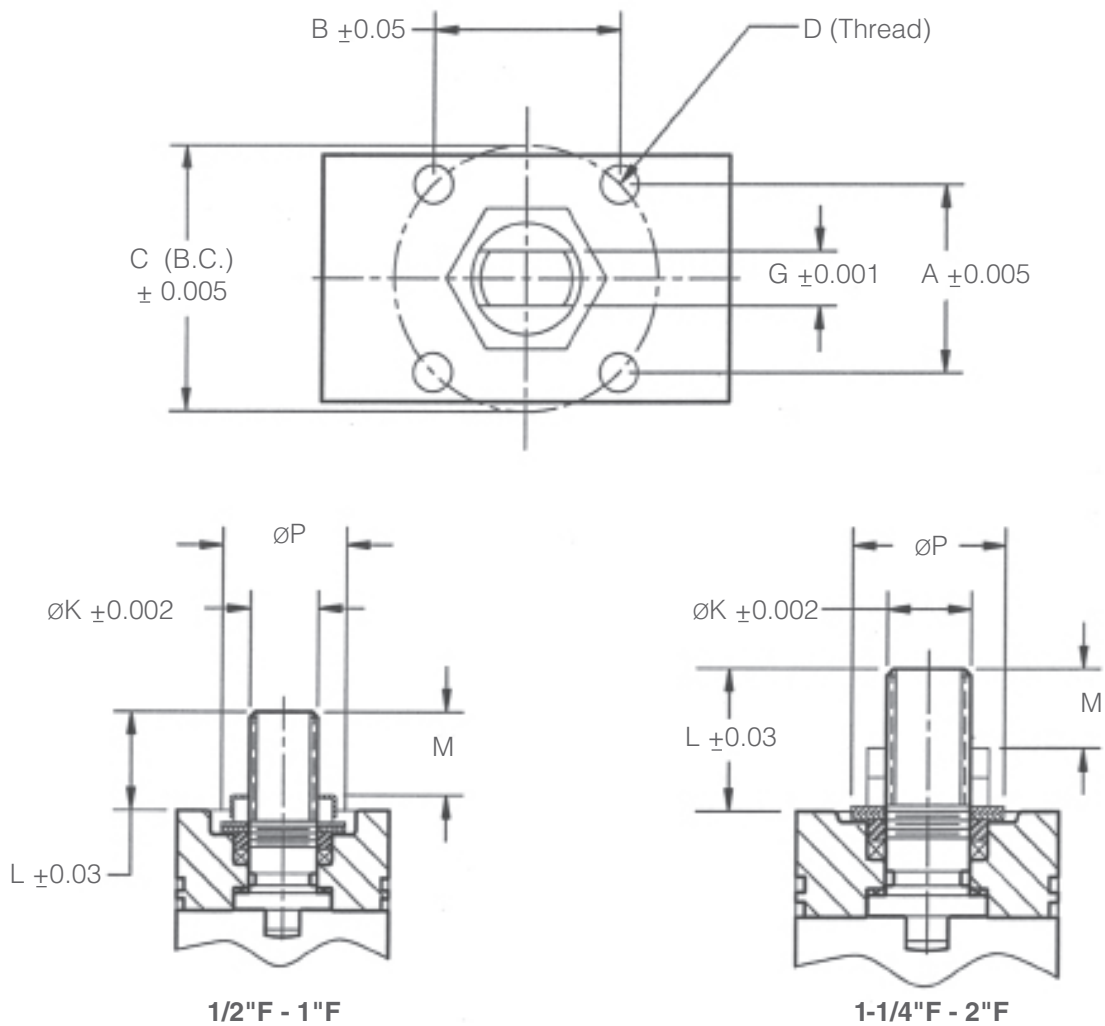
Flanged Ends (Raised Face, ANSI 900 or 1500)

Dimensions, Inches					
Valve Size	Dimensions				Weight, lbs
	A	B	C	ØD	
1/2"	8.50	3.4	7.6	0.44	16
3/4"	9.00	3.8	7.6	0.61	20
1"	10.00	4.5	8.9	0.83	27
1-1/4"	11.0	5.5	13.8	1.35	49
1-1/2"	12.00	5.5	13.8	1.35	51
2"	14.50	5.9	13.8	1.69	94
3" (900)	15.00	5.9	13.8	1.69	105
3" (1500)	18.50	5.9	13.8	1.69	146

Dimensions, Metric					
Valve Size	Dimensions				Weight, kgs
	A	B	C	ØD	
DN15	215,9	85	193	11,2	7,3
DN20	228,6	95	193	15,5	9,1
DN25	254,0	113	225	21,1	12,2
DN32	279,4	140	349	34,3	22,2
DN40	304,8	140	349	34,3	23,1
DN50	368,3	150	349	42,9	42,6
DN80 (900)	381,0	150	349	42,9	47,6
DN80 (1500)	469,9	150	349	42,9	66,2

For actuator mounting dimensions, see drawing 28-10800.

10000F Series Top Mounting Dimensions



ART1123

Dimensions, Inches									
Size	A	B	C (B.C.)	D (Thread)	Mtg. Pattern	G	ØK	L	M
1/2"	0.470	1.110	-	10-24UNC	-	0.294	0.467	0.45	0.35
3/4"	1.168	1.168	Ø1.65	10-24UNC	F04	0.294	0.467	0.51	0.46
1"	1.168	1.168	Ø1.65	10-24UNC	F04	0.351	0.587	0.76	0.73
1-1/4" - 1-1/2"	1.952	1.952	Ø2.76	5/16-18UNC	F07	0.628	0.860	1.30	0.61
2"	1.952	1.952	Ø2.76	5/16-18UNC	F07	0.628	0.860	1.23	0.63

Dimensions, Metric									
Size	A	B	C (B.C.)	D (Thread)	Mtg. Pattern	G	ØK	L	M
DN15	11,93	28,19	-	10-24UNC	-	7,47	11,86	11,4	8,9
DN20	29,67	29,67	Ø42	10-24UNC	F04	7,47	11,86	13,0	11,7
DN25	29,67	29,67	Ø42	10-24UNC	F04	8,52	14,91	19,3	18,5
DN32 - DN40	49,58	49,58	Ø70	5/16-18UNC	F07	15,95	21,84	33,0	15,5
DN50	49,58	49,58	Ø40	5/16-18UNC	F07	15,95	21,84	31,2	16,0

Operating Torque & Flow Coefficient (Customary)							
Valve Size Inches	Operating Torque, in-lb						Flow Coefficient CV
	Delrin		PEEK		CPEEK		
	Pressure	Torque	Pressure	Torque	Pressure	Torque	
1/4", 3/8"	4500	156	6000	270	6000	338	8
1/2"	4500	156	6000	270	6000	338	8
3/4"	4500	220	6000	600	6000	750	8
1"	4500	320	6000	720	6000	900	25
1-1/4"	4500	640	5000	2370	5000	2963	34
1-1/2"	4500	640	5000	2370	5000	2963	100
2"	4500	1163	5000	5920	5000	7400	180
2-1/2" x 2"	4500	1163	5000	5920	5000	7400	180
3" x 2"	4500	1163	5000	5920	5000	7400	180

Operating Torque & Flow Coefficient (Metric)				
Valve Size NPS	Operating Torque, Nm			Flow Coefficient, Kv
	Delrin	PEEK	CPEEK	
DN8, DN12	17,6	30,5	38,2	7
DN15	17,6	30,5	38,2	7
DN20	24,9	67,8	84,7	7
DN25	36,2	81,3	102	22
DN32	72,3	268	335	29
DN40	72,3	268	335	86
DN50	131	669	836	155
DN65 x DN50	131	669	836	155
DN80 x DN50	131	669	836	155

Delrin, PEEK and CPEEK are the most common seat materials. Operating torque given is for maximum CWP seat rating of valve (see pressure-temperature charts). For required torque for actuator sizing, apply service factor of 1.2 for normal operating conditions. More or less torque may be required depending upon operating differential pressure across closed ball, fluid, frequency of operation, etc.

Consult the Marwin Flow Sizing Program for torques at specific differential pressures and additional seat materials. It may be downloaded for free at www.marwinvalve.com

Model	Size	Body Mat'l	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

Model Number
10000F 3 Piece Ball Valve

Size
025 1/4"
038 3/8"
050 1/2"
075 3/4"
100 1"
125 1-1/4"
150 1-1/2"
200 2"
300 3" Double Reduced

Body Material
CB CS Barstock
SB SS Barstock
A2 Alloy 20
DU Duplex
HC Hastelloy C
HB Hastelloy B
MN Monel
TI Titanium
ZZ Other Special Alloy

End Connections
1&2 PT FNPT
SW FSW
SE SW Extended
F9 900# FE
F5 1500# FE
F2 2500# FE
E8 BWE Extended Sch. 80
E6 BWE Extended Sch 160
ZZ Non-standard

3&4	Trim (Ball / Stem)
S6	Stainless Steel
6P	Stainless Steel / 17-4
A2	Alloy 20
DU	Duplex
HC	Hastelloy C
HB	Hastelloy B
MN	Monel
TI	Titanium
ZZ	Other Special Alloy

5&6	Seat / Body Seals / Thrust Washer
DL	Delrin/Viton/RPTFE
PK	PEEK/Viton/PEEK
CP	C-PEEK/Graphite/PEEK
ZZ	Non-standard

7&8	Packing / Stem O-Ring
TV	PTFE/Viton
TE	PTFE/EPDM
GV	Grafoil/Viton
GE	Grafoil/EPDM
UV	UHMWPE/Viton
UE	UHMWPE/EPDM
ZZ	Non-standard

9&10	Handle & Gear Operator
NN	None
HL	Handle Lever
HD	Handle Lever with Locking Device
ZZ	Non-standard

11&12	Operation		
00	None		
P1	UT-0A-DA STD	S1	UT-0-SR STD
P2	UT-0-DA STD	S2	UT-1-SR STD
P3	UT-1-DA STD	S3	UT-2-SR STD
P4	UT-2-DA STD	S4	UT-2.5-SR STD
P5	UT-2.5-DA STD	S5	UT-3-SR-STD
P6	UT-3-DA STD	S6	UT-3.5SR STD
P7	UT-3.5-DA STD	S7	UT-4-SR STD
P8	UT-4-DA STD	SF	UT-4.5-SR STD
PF	UT-4.5-DA STD	S8	UT-5-SR STD
P9	UT-5-DA STD	S9	UT-6-SR STD
PA	UT-6-DA STD	SA	UT-7-SR STD
PB	UT-7-DA STD		

11&12	Operation (Con't)
M1	ER-1-2.5-4 110 VAC
M2	ER-2-5-4 110 VAC
M3	ER-3-5-4 110 VAC
M8	ER-4-10-4 110 VAC
M4	ER-6-15-4 110 VAC
M5	ER-10-15-4 110 VAC
M9	ER-15-30-4 110 VAC
MA	ER-20-12-4 110 VAC
M7	ER-38-14-4 110 VAC
MC	ER-50-68-4 110 VAC
MD	ER-70-68-4 110 VAC
ZZ	Non-standard

13&14	Solenoid Feature	Act. Type
00	None	
3A	3W 8551-120VAC N4 UT-0/5	SR
3C	3W EF8551-120VAc N7 UT-0/5	SR
3J	3W 8317G35-120VAC N4 UT-0/2.5	SR
3M	3W 8321G1-120VAC N4 UT-3/5	SR
3Q	3W EF8317G35-120VAC N7 UT-0/2.5	SR
3R	3W EF8321G1-120VAC N7 UT-3/5	SR
4A	4W 8551-120VAC N4 UT-0A	DA
4B	4W 8551-120VAC N4 UT-0/5	DA
4D	4W EF8551-120VAC N7 UT-0A	DA
4E	4W EF8551-120VAC N7 UT0/5	DA
ZZ	Non-Standard	

15	Limit Switch
0	None
A	LS FMYB-5120-N4 to UT-0/3
B	LS FMYB-5120-N4 to UT-3.5/7
C	LS AMYB-5120-N7 to UT-0/3
D	LS AMYB-5120-N7 to UT-3.5/7
Z	Non-Standard

16	Positioner
0	None
A	Siemens 760P (3-15 psi), for UT-0/3
B	Siemens 760P (3-15 psi), for UT-3.5/7
C	Siemens 760E (4-20mA), for UT-0/3
D	Siemens 760E (4-20mA), for UT-3.5/7
E	Siemens 2-IQ (4-20mA), for UT-0/3DA
F	Siemens 2-IQ (4-20mA), for UT-3.5/7DA
Q	Siemens 2-IQ (4-20mA), for UT-0/3SR
R	Siemens 2-IQ (4-20mA), for UT-3.5/7DA
Z	Non-Standard

17	Fail Position
0	None / No Spring Actuator
1	Fail Open - 80 psi supply
2	Fail Closed - 80 psi supply
3	Fail Open - 60 psi supply
4	Fail Closed - 60 psi supply

18	Accessory
00	None
04	Air Filter Regulator



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