

3000 Series Soft Seat MS3000 Series Metal Seat High Performance Ball Valves

The **3000 Series** soft seat valve is engineered for high pressure applications and has built-in versatility, offering a variety of seat/seal and body materials and end connections

- Sizes 1/4" through 3" full port and 1/4" through 4" standard port
- For applications with pressures to 4000 psi (275 bar); temperatures to 600°F (315°C). Ideal for hydraulic, gas, steam or process piping applications.
- API 607, 4th Edition Fire Tested
- Available integral extended ends with "heat sink" construction allow in-place welding without damage to seats and seals
- Anti-static construction

The **MS3000 Series** is a heavy duty, metal seated ball valve engineered for high pressure and temperature applications with an extended bonnet standard for pipe insulation and enhanced packing.

- Sizes 1/4" through 2" and 3" x 2" (sch. 160 pipe bore)
- For applications with pressures to 990 psi (69 bar); temperatures to 1000°F (538°C). Ideal for condensate, steam or gas service
- Wide variety of end connections
- The metal seats are identical upstream and downstream and can be interchanged during routine maintenance thereby extending the effective life
- Available with ANSI Class VI shutoff



3000 Series Soft Seated Valve

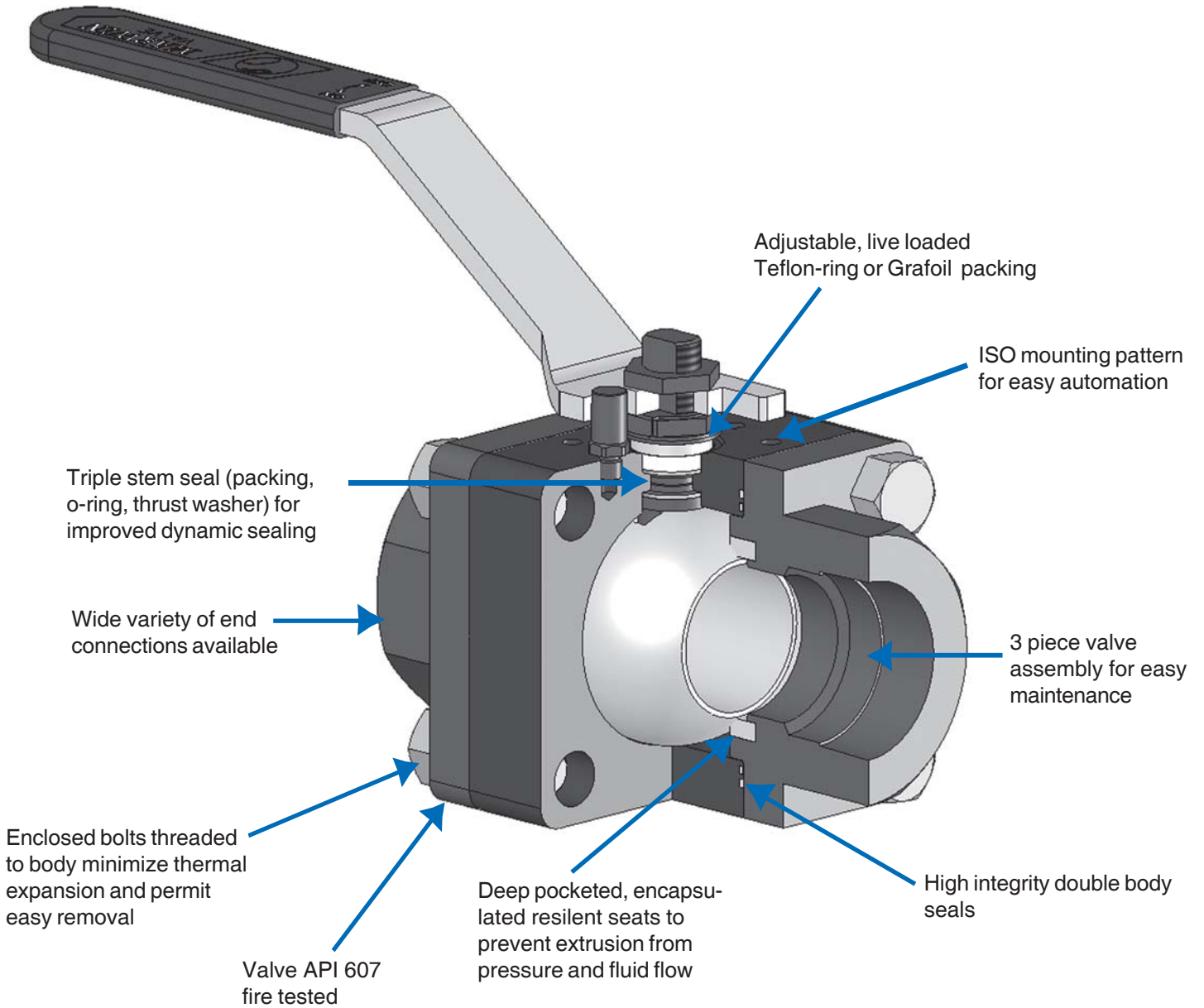


MS3000 Series Metal Seated Ball Valve



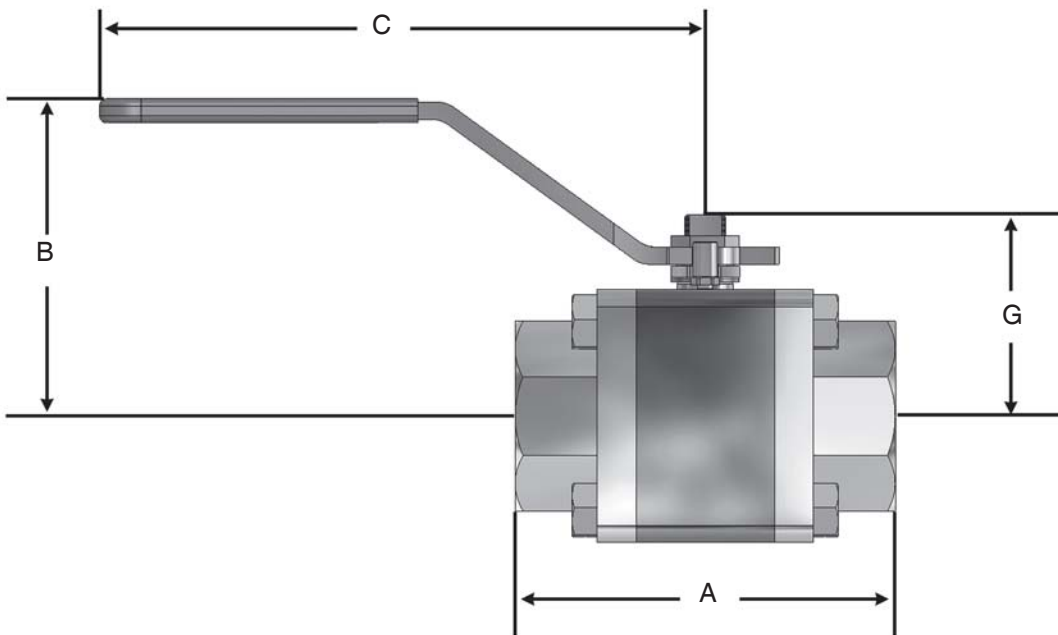
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Marwin Valve 3000 Series Soft Seat – Features



Marwin Valve 3000 Series Soft Seat – Dimensions

FNPT Ends

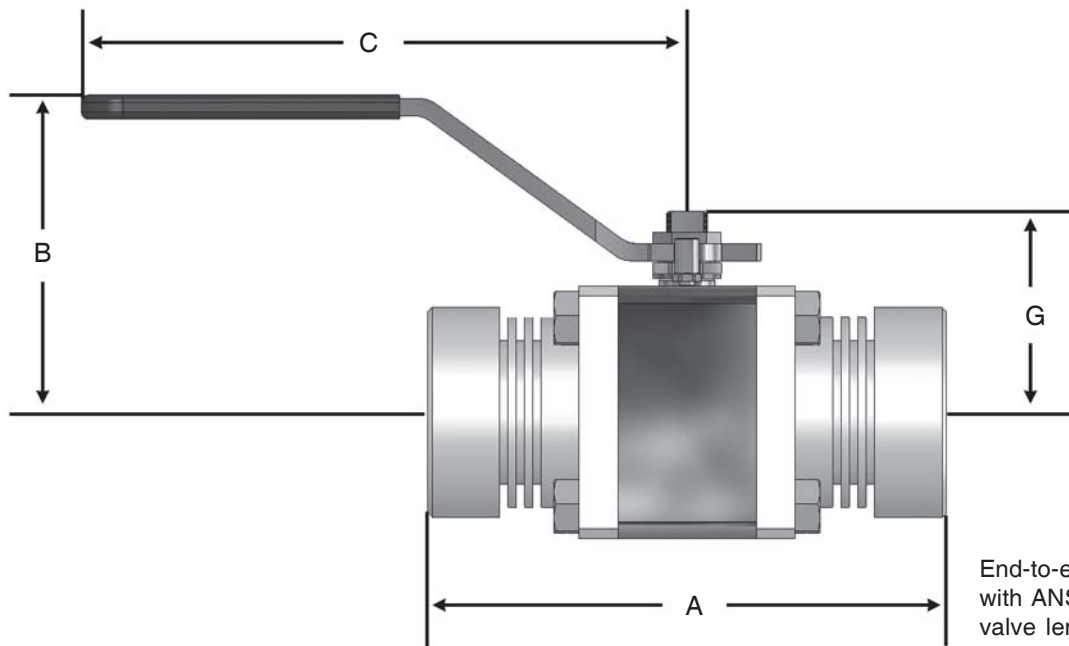


FNPT Ends (inches)							
Size		Port	Dimensions				Weight (lbs)
Full	Standard		A	B	C	G	
1/4"	—	0.43	2.95	2.6	6.0	1.4	2.4
3/8"	1/2"	0.43	2.95	2.6	6.0	1.4	2.2
1/2"	3/4"	0.56	3.20	2.8	6.0	1.5	2.8
3/4"	1"	0.74	3.90	3.2	7.6	2.1	5.0
1"	1-1/4"	1.00	4.40	3.6	7.6	2.3	7.0
1-1/4"	1-1/2"	1.25	4.70	4.3	8.9	2.7	9.5
1-1/2"	2"	1.50	5.50	4.5	8.9	2.9	12.8
2"	2-1/2"	1.93	5.60	4.7	11.0	3.3	22.0
2-1/2"	3"	2.44	9.00	5.4	13.8	4.0	29.7
3"	4"	3.00	8.80	5.9	19.7	4.9	38.5

FNPT Ends (mm)							
Size		Port	Dimensions				Weight (kgs)
Full	Standard		A	B	C	G	
DN8	—	11.0	74,9	67	152	36	1,09
DN12	DN15	11.0	74,9	67	152	36	1,00
DN15	DN20	14.1	81,3	70	152	38	1,27
DN20	DN25	18.8	99,1	80	193	52	2,27
DN25	DN32	25.4	111,8	92	193	58	3,18
DN32	DN40	31.8	119,4	108	225	69	4,31
DN40	DN50	38.1	139,7	113	225	75	5,81
DN50	DN65	49.0	142,2	118	279	84	9,98
DN65	DN80	62.1	228,6	136	351	102	13,47
DN80	DN100	76.1	223,5	150	500	125	17,46

Marwin Valve 3000 Series Soft Seat – Dimensions

Extended Butt Weld and Socket Weld Ends



End-to-end lengths "A" comply with ANSI B16.10 Class 300 ball valve lengths.

Full Port

Extended Butt Weld or Socket Weld Ends (inches)					
Size Full	Dimensions				Weight (lbs)
	A	B	C	G	
1/4"F	5.50	2.6	6.0	1.4	3.1
3/8"F	5.50	2.6	6.0	1.4	2.9
1/2"F	5.50	2.8	6.0	1.5	3.8
3/4"F	6.00	3.2	7.6	2.1	6.1
1"F	6.50	3.6	7.6	2.3	8.5
1-1/4"F	7.00	4.3	8.9	2.7	11.5
1-1/2"F	7.50	4.5	8.9	2.9	15.2
2"F	8.50	4.7	11.0	3.3	26.5
2-1/2"F	9.50	5.4	13.8	4.0	29.9
3"F	11.12	5.9	19.7	4.9	48.6

Extended Butt Weld or Socket Weld Ends (mm)					
Size Full	Dimensions				Weight (kgs)
	A	B	C	G	
DN8	139,7	67	152	36	1,4
DN12	139,7	67	152	36	1,3
DN15	139,7	70	152	38	1,7
DN20	152,4	80	193	52	2,8
DN25	165,1	92	193	58	3,9
DN32	177,8	108	225	69	5,2
DN40	190,5	113	225	75	6,9
DN50	215,9	118	279	84	12,0
DN65	241,3	136	351	102	13,6
DN80	282,4	150	500	125	22,0

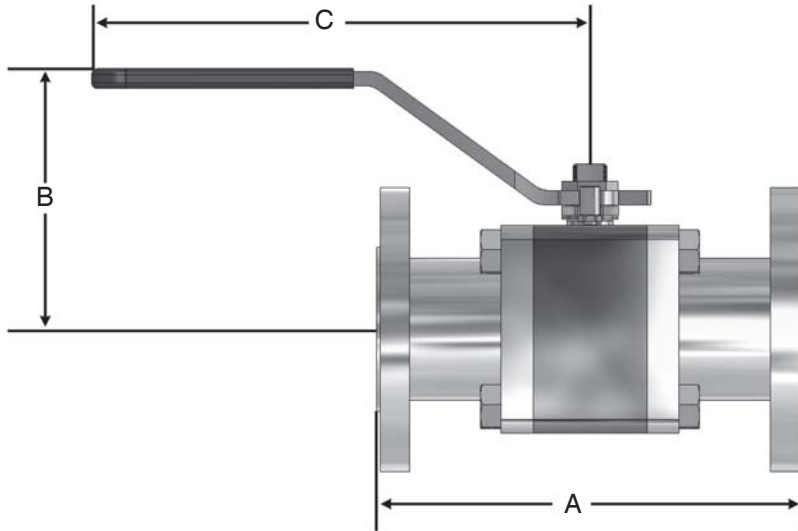
Standard Port

Extended Butt Weld or Socket Weld Ends (inches)					
Size Std.	Dimensions				Weight (lbs)
	A	B	C	G	
1/2"R	5.50	2.6	6.0	1.4	2.8
3/4"R	6.00	2.8	6.0	1.5	3.8
1"R	6.50	3.2	7.6	2.1	6.4
1-1/4"R	7.00	3.6	7.6	2.3	8.9
1-1/2"R	7.50	4.3	8.9	2.7	11.9
2"R	8.50	4.5	8.9	2.9	15.8
2-1/2"R	9.50	4.7	11.0	3.3	28.0
3"R	11.12	5.4	13.8	4.0	30.5
4"R	12.00	6.4	19.7	4.9	52.4

Extended Butt Weld or Socket Weld Ends (mm)					
Size Std.	Dimensions				Weight (kgs)
	A	B	C	G	
DN15	139,7	67	152	36	1,3
DN20	152,4	70	152	38	1,7
DN25	165,1	80	193	52	2,9
DN32	177,8	92	193	58	4,0
DN40	190,5	108	225	69	5,4
DN50	203,2	113	225	75	7,2
DN65	241,3	118	279	84	12,7
DN80	282,4	136	351	102	13,8
DN100	304,8	162	500	125	23,8

Marwin Valve 3000 Series Soft Seat – Dimensions

Full Port, Flanged Ends (ANSI 150, 300, 600, 900)



Face-to-face dimensions "A" comply with ANSI B16.10 ball valve lengths except 2-1/2" and smaller Class 150 uses Class 300 dimensions.

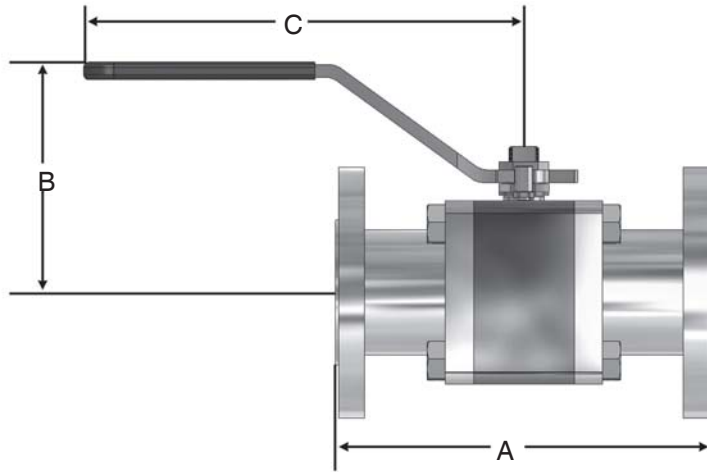
■ Full Port

Flanged Ends (inches)					
Size Full	Flange	Dimensions			Weight (lbs)
		A	B	C	
1/2"F	150#	5.50	2.8	6.0	5.1
	300#	5.50	2.8	6.0	6.4
	600#	6.50	2.8	6.0	7.1
	900#	8.50	2.8	6.0	7.8
3/4"F	150#	6.00	3.2	7.6	8.0
	300#	6.00	3.2	7.6	10.7
	600#	7.50	3.2	7.6	12.0
	900#	9.00	3.2	7.6	12.8
1"F	150#	6.50	3.6	7.6	10.9
	300#	6.50	3.6	7.6	14.0
	600#	8.50	3.6	7.6	16.0
	900#	10.00	3.6	7.6	17.1
1-1/4"F	150#	7.00	4.3	8.9	14.6
	300#	7.00	4.3	8.9	18.3
	600#	9.00	4.3	8.9	21.3
	900#	11.00	4.3	8.9	23.0
1-1/2"F	150#	7.50	4.5	8.9	19.1
	300#	7.50	4.5	8.9	25.3
	600#	9.50	4.5	8.9	29.4
	900#	12.00	4.5	8.9	32.4
2"F	150#	8.5	4.7	11.0	32.8
	300#	8.5	4.7	11.0	37.9
	600#	11.50	4.7	11.0	45.2
	900#	14.50	4.7	11.0	49.9
2-1/2"F	150#	9.50	5.4	13.8	40.2
	300#	9.50	5.4	13.8	48.3
	600#	13.00	5.4	13.8	58.1
3"F	150#	8.00	5.9	19.7	43.7
	300#	11.12	5.9	19.7	67.5
	600#	14.00	5.9	19.7	83.4

Flanged Ends (mm)					
Size	Flange	Dimensions			Weight (kgs)
		A	B	C	
DN15	150#	139,7	70	152	2,3
	300#	139,7	70	152	2,9
	600#	165,1	70	152	3,2
	900#	215,9	70	152	3,6
DN20	150#	152,4	80	193	3,6
	300#	152,4	80	193	4,9
	600#	190,5	80	193	5,5
	900#	228,6	80	193	5,8
DN25	150#	165,1	92	193	4,9
	300#	165,1	92	193	6,3
	600#	215,9	92	193	7,3
	900#	254,0	92	193	7,8
DN32	150#	177,8	108	225	6,6
	300#	177,8	108	225	8,3
	600#	228,6	108	225	9,6
	900#	279,4	108	225	10,4
DN40	150#	190,5	113	225	8,7
	300#	190,5	113	225	11,5
	600#	241,3	113	225	13,3
	900#	304,8	113	225	14,7
DN50	150#	215,9	118	279	14,9
	300#	215,9	118	279	17,2
	600#	292,1	118	279	20,5
	900#	268,3	118	279	22,6
DN65	150#	241,3	136	351	18,3
	300#	241,3	136	351	21,9
	600#	330,2	136	351	26,4
DN80	150#	203,2	150	500	19,8
	300#	282,4	150	500	30,6
	600#	355,6	150	500	37,8

Marwin Valve 3000 Series Soft Seat – Dimensions

Standard Port, Flanged Ends (ANSI 150, 300, 600, 900)



Face-to-face dimensions "A" comply with ANSI B16.10 ball valve lengths.

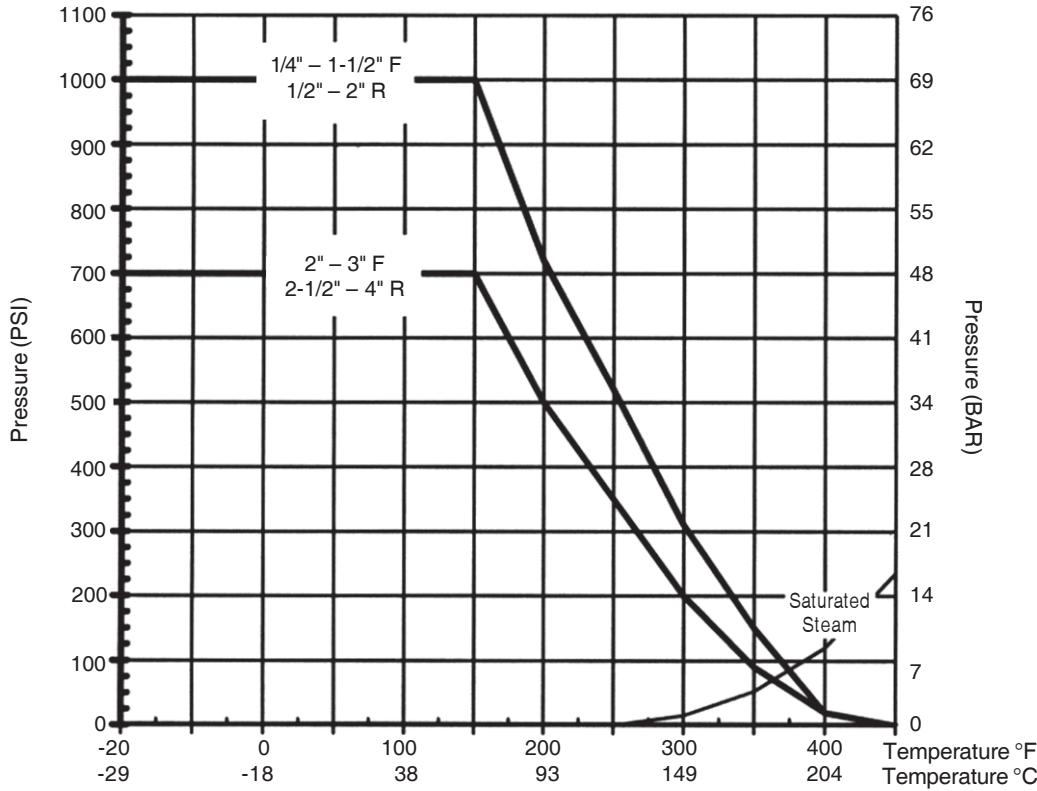
■ Standard Port

Flanged Ends (inches)					
Size Std	Flange	Dimensions			Weight (lbs)
		A	B	C	
1/2"R	150#	4.25	2.6	6.0	4.0
	300#	5.50	2.6	6.0	5.7
	600#	6.50	2.6	6.0	6.3
	900#	8.50	2.6	6.0	6.7
3/4"R	150#	4.62	2.8	6.0	5.2
	300#	6.50	2.8	6.0	8.7
	600#	7.50	2.8	6.0	9.5
	900#	9.00	2.8	6.0	10.0
1"R	150#	5.00	3.2	7.6	8.1
	300#	6.50	3.2	7.6	11.9
	600#	8.50	3.2	7.6	13.4
	900#	10.00	3.2	7.6	14.1
1-1/4"R	150#	5.50	3.6	7.6	11.0
	300#	7.00	3.6	7.6	15.8
	600#	9.00	3.6	7.6	18.2
	900#	11.00	3.6	7.6	19.4
1-1/2"R	150#	6.50	4.3	8.9	15.2
	300#	7.50	4.3	8.9	22.3
	600#	9.50	4.3	8.9	25.6
	900#	12.00	4.3	8.9	27.3
2"R	150#	7.00	4.5	8.9	21.2
	300#	8.50	4.5	8.9	27.8
	600#	11.50	4.5	8.9	33.2
	900#	14.50	4.5	8.9	35.6
2-1/2"R	150#	7.50	4.7	11.0	34.6
	300#	9.50	4.7	11.0	45.2
	600#	13.00	4.7	11.0	52.5
3"R	150#	8.00	5.4	13.8	45.0
	300#	11.12	5.4	13.8	57.8
	600#	14.00	5.4	13.8	62.2
4"R	150#	9.00	5.9	19.7	59.9
	300#	12.00	5.9	19.7	85.7
	600#	17.00	5.9	19.7	120.0

Flanged Ends (mm)					
Size Std	Flange	Dimensions			Weight (kgs)
		A	B	C	
DN15	150#	108	67	152	1,8
	300#	140	67	152	2,6
	600#	165	67	152	2,8
	900#	216	67	152	3,1
DN20	150#	117	70	152	2,4
	300#	165	70	152	3,9
	600#	191	70	152	4,3
	900#	229	70	152	4,5
DN25	150#	127	80	193	3,7
	300#	165	80	193	5,4
	600#	216	80	193	6,1
	900#	254	80	193	6,4
DN32	150#	140	92	193	5,0
	300#	178	92	193	7,2
	600#	229	92	193	8,3
	900#	279	92	193	8,8
DN40	150#	165	108	225	6,9
	300#	191	108	225	10,1
	600#	241	108	225	11,6
	900#	305	108	225	12,4
DN50	150#	178	113	225	9,6
	300#	216	113	225	12,6
	600#	292	113	225	15,1
	900#	368	113	225	16,1
DN65	150#	191	118	279	15,7
	300#	241	118	279	20,5
	600#	330	118	279	23,8
DN80	150#	203	136	351	20,4
	300#	282	136	351	26,2
	600#	356	136	351	28,2
DN100	150#	229	150	500	27,2
	300#	305	150	500	38,9
	600#	432	150	500	54,4

Marwin Valve 3000 Series Soft Seat – Pressure/Temperature Limits

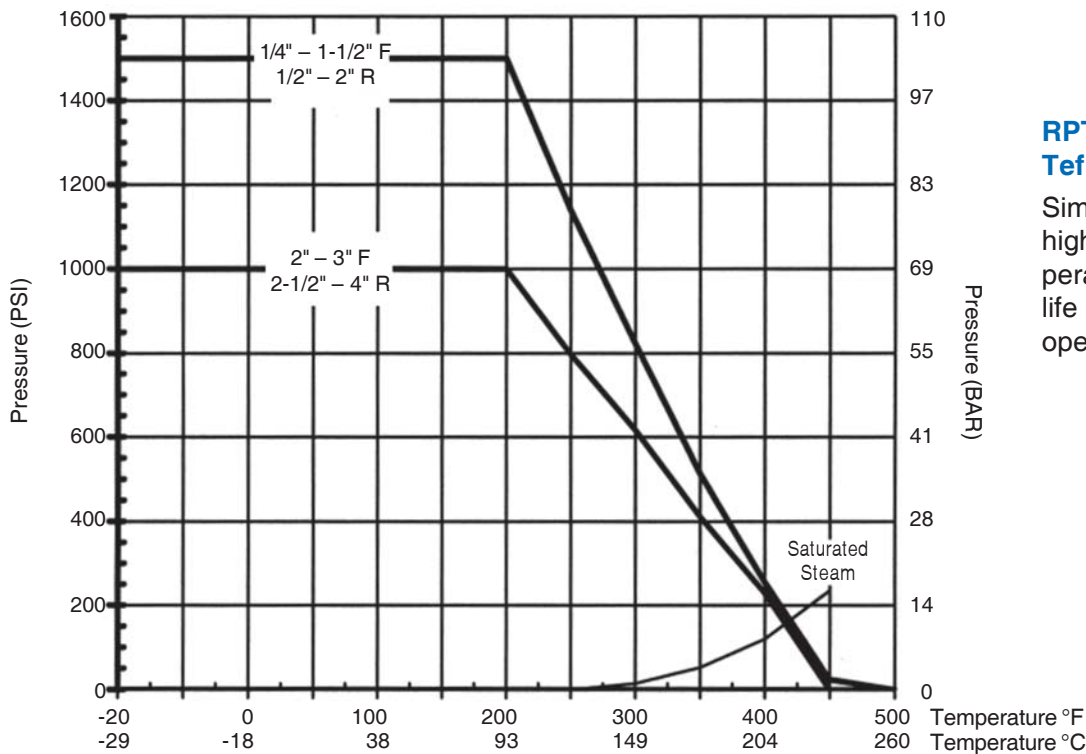
Virgin PTFE Seats



PTFE Virgin Teflon (White)

Good for most chemical applications as well as water, oil, gas use. Requires relatively low operating torque to save on automation costs.

Glass-Filled PTFE Seats

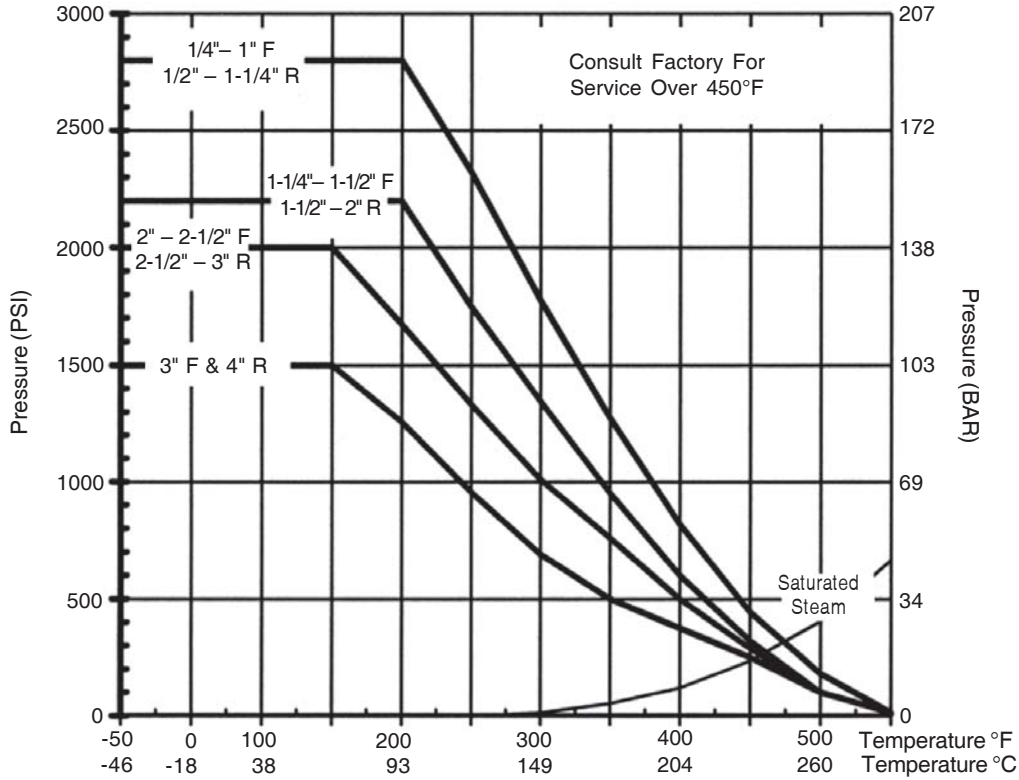


RPTFE Glass Reinforced Teflon (Off-white)

Similar chemical resistance, higher pressures and temperatures, and improved cycle life compared to PTFE. Higher operating torque than PTFE.

Marwin Valve 3000 Series Soft Seat – Pressure/Temperature Limits

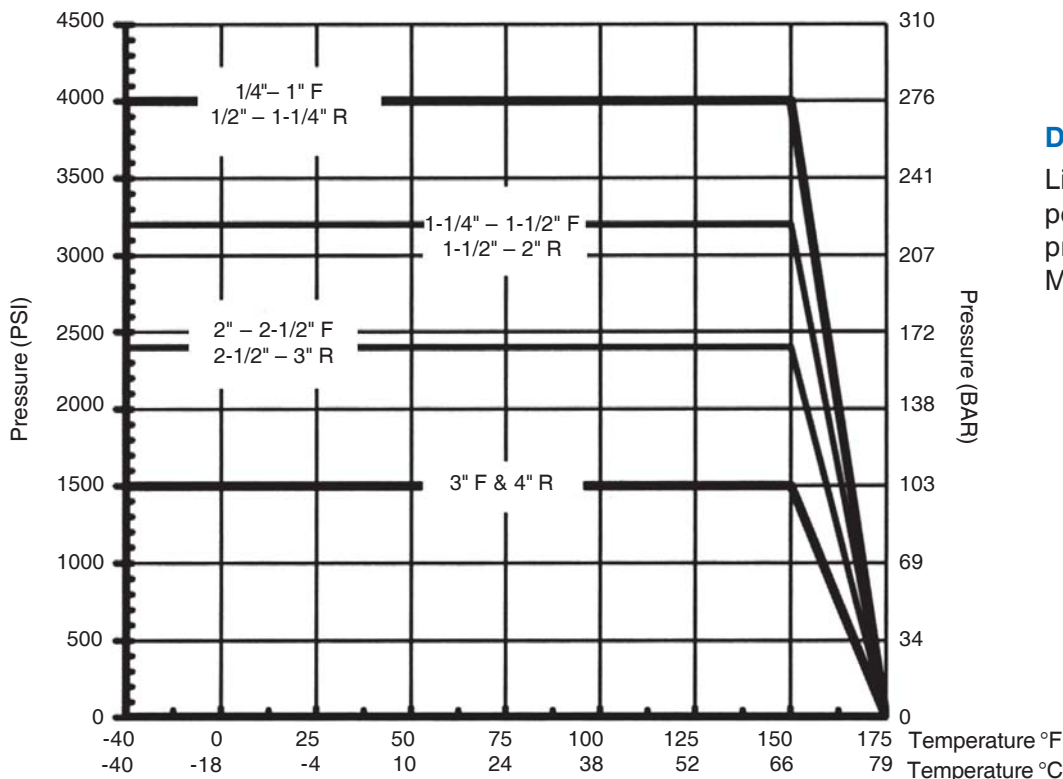
Carbon-Filled PTFE Seats



CRPTFE Carbon Reinforced Teflon (Black)

Increased pressure and temperature capability compared to RPTFE. Suitable for steam, hot oil, and high cycle applications. Slightly higher operating torque than RPTFE.

Delrin Seats

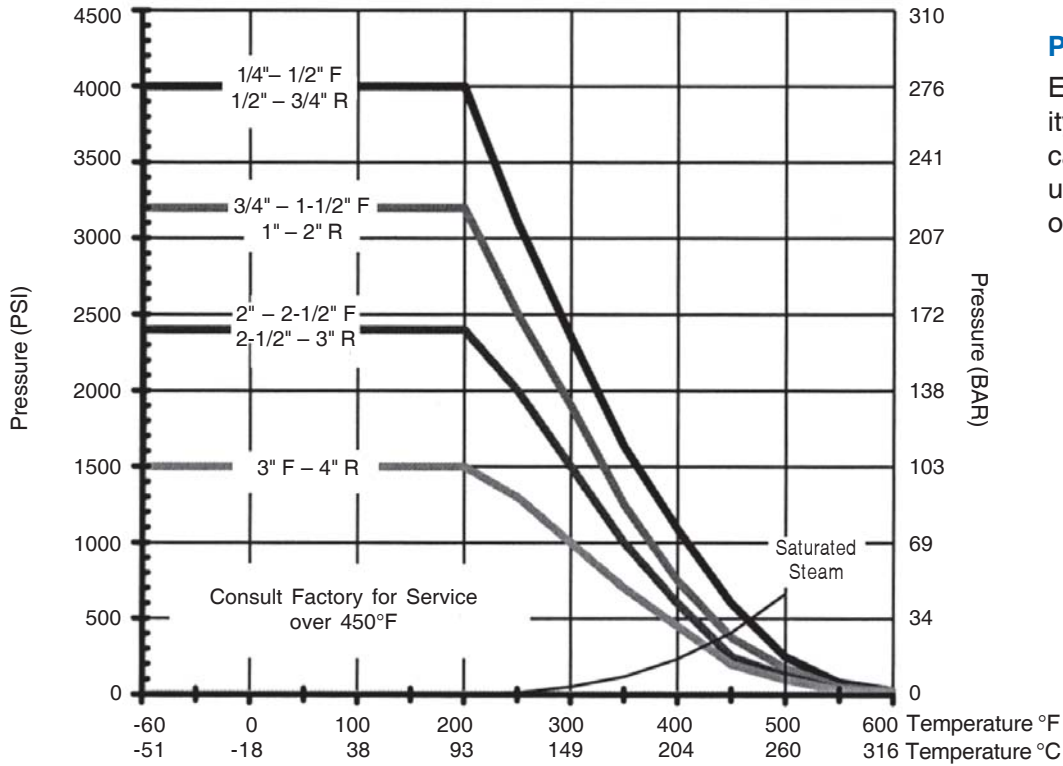


Delrin (Creamy white)

Limited chemical and temperature capability; high pressure and wear capability. Moderate operating torque.

Marwin Valve 3000 Series Soft Seat – Pressure/Temperature Limits

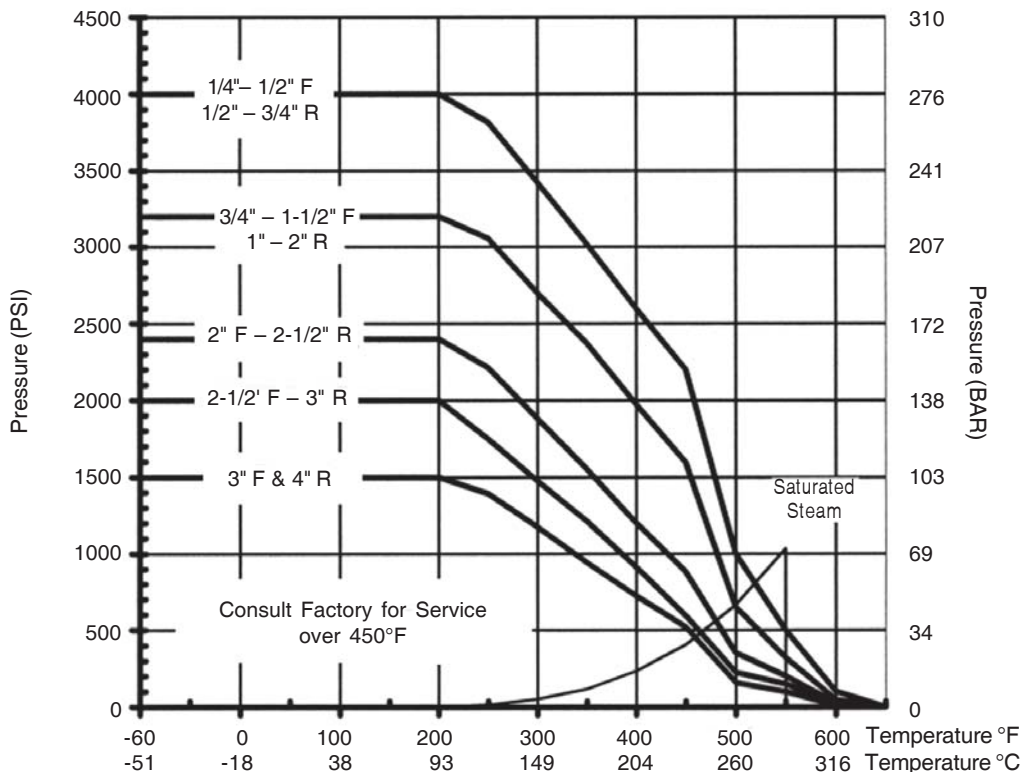
PEEK Seats



PEEK (Black)

Excellent chemical compatibility, temperature, and pressure capabilities. Good for steam up to 400 psi. Relatively high operating torque.

Carbon-Filled PEEK Seats

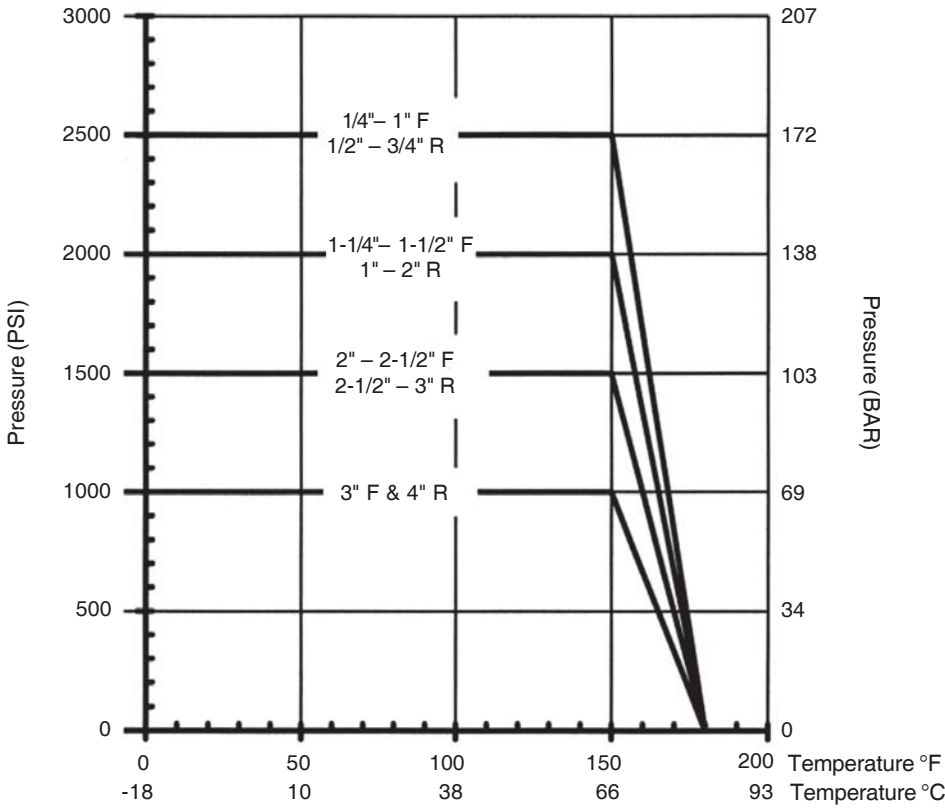


C-PEEK Carbon Reinforced PEEK (Black)

Excellent chemical compatibility, temperature, and pressure capabilities. Good for steam up to 450 psi. Relatively high operating torque.

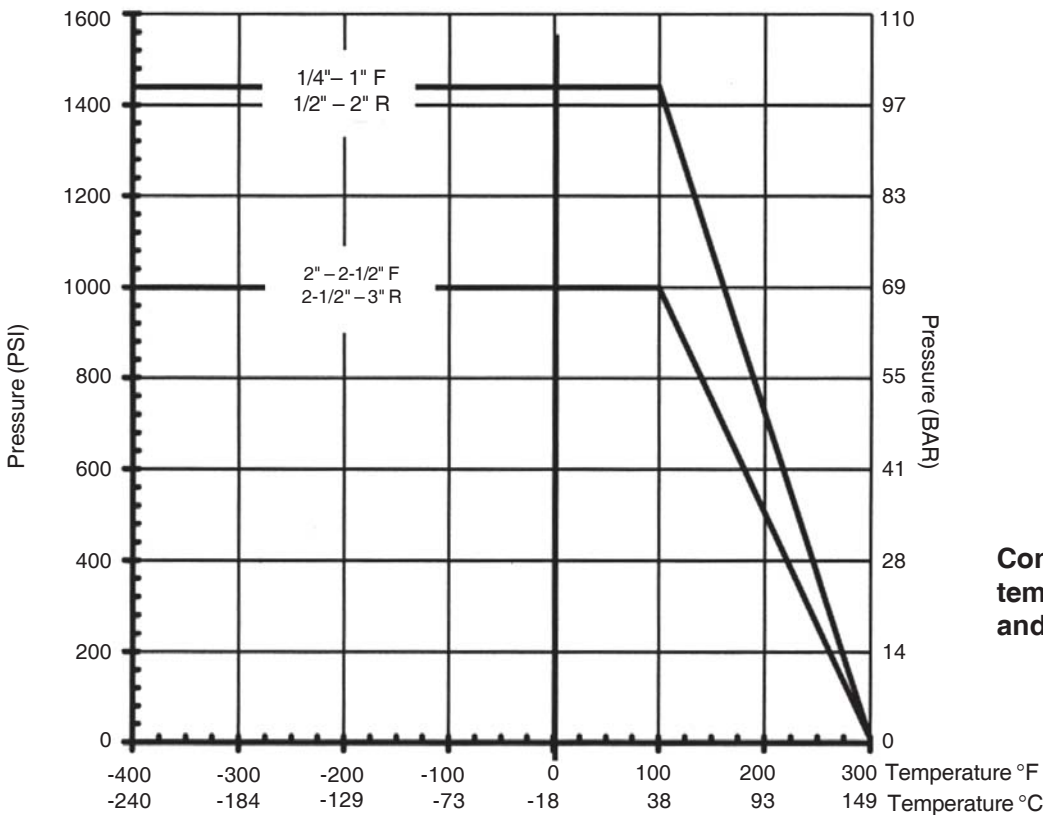
Marwin Valve 3000 Series Soft Seat – Pressure/Temperature Limits

UHMWPE Seats



UHMWPE (Opaque White)
Limited chemical compatibility and temperature capability, but good pressure and wear characteristics, with excellent abrasion resistance. Commonly used for tobacco and nuclear applications.

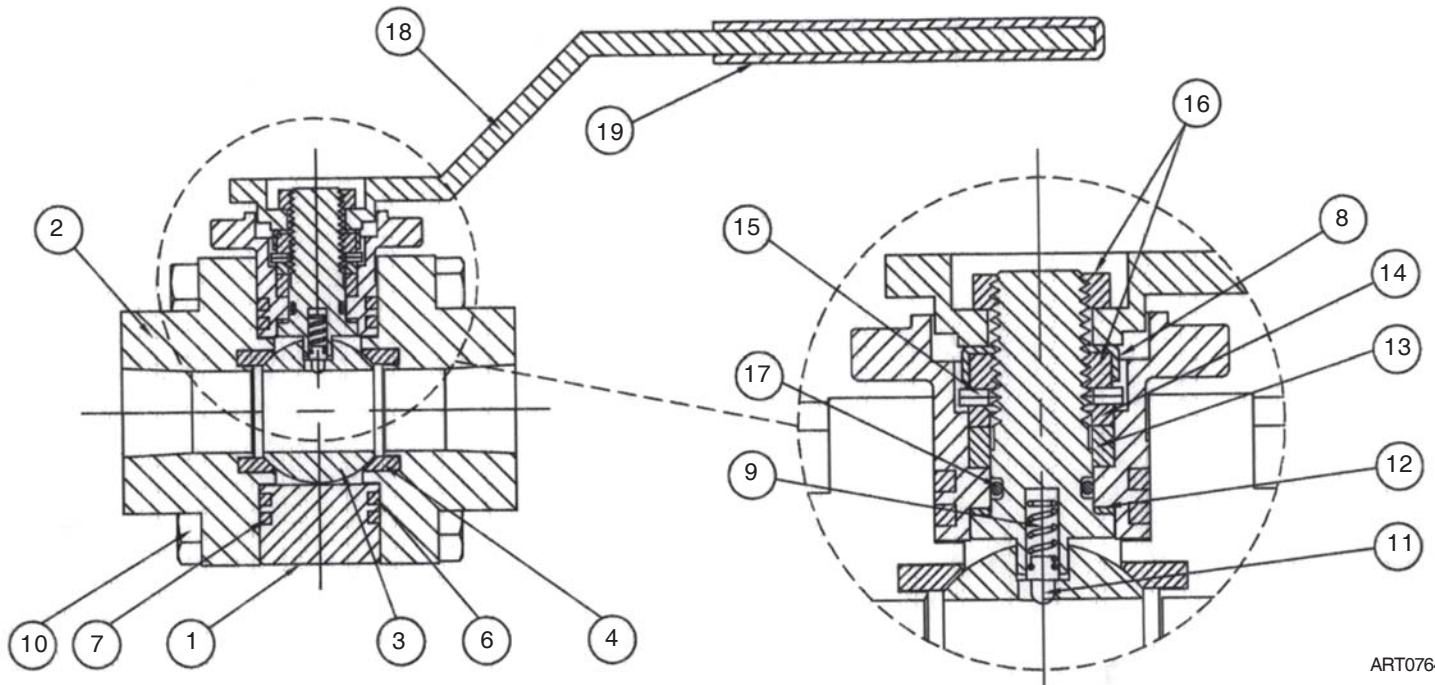
KEL-F (PCTFE) Seats



KEL-F (Translucent White)
Chemical and mechanical properties comparable to PTFE, but has additional capabilities for use at low temperatures.

Consult factory for operating temperatures below -50°F (45°C) and cryogenic applications.

Marwin Valve 3000 Series Soft Seat – Material Specifications



ART0764

Item	Part	Qty	SS	CS
1	Body	1	A351 CF8M	A216 WCB
2	End Cap	2	A351 CF3M	A216 WCB
3	Ball	1	AISI 316 SS	AISI 316 SS
4	Seat	2	CRPTFE	CRPTFE
5	Stem	1	A479 S31600	A479 S31600
6	Body Seal	2	CRPTFE	CRPTFE
7	Secondary Body Seal	2	Non-Asbestos	Non-Asbestos
8	Lock Washer	1	SS	SS
9	Anti-Static Spring	1	AISI 316 SS	AISI 316 SS
10	Bolt, Body	8	A193 B8 Cl1	A193 B7
11	Anti-Static Pin	1	AISI 316 SS	AISI 316 SS
12	Thrust Washer	1	CRPTFE	CRPTFE
13	Packing	1	PTFE	PTFE
14	Gland Bushing	1	AISI 316 SS	AISI 316 SS
15	Belleville Washer	2	17-7PH SS	17-7PH SS
16	Nut, Stem	2	AISI 316 SS	AISI 316 SS
17	O-Ring, Stem	1	Viton	Viton
18	Handle	1	Carbon Steel	Carbon Steel
19	Cover, Handle	1	Vinyl	Vinyl

Marwin Valve

3000 Series Soft Seat – Material Specifications

Materials

Ordering Code	Description	Cast	Bar
		Specification	Specification
CS	Carbon Steel	ASTM A216 Gr. WCB	ASTM A105
S6	Stainless Steel 316	ASTM A351 Gr. CF8M	A419 S31600
DU	Duplex SS	—	ASTM A479 Gr. 2205 (S31803)
A2	Alloy 20	—	ASTM B743 Gr. 20Cb-3 (N08020)
MN	Monel	—	ASTM B164 N04400 or N04405
BR	Nickel Aluminum Bronze	—	ASTM B505 C95400, ASTM B150 C62400
HB	HastelloyB	—	ASTM B335 Gr. B3 (N10675)
HC	Hastelloy C	—	ASTM B574 Gr. C-276 (N10276)
TI	Titanium Gr. 2	—	ASTM B348 Gr. 2
NI	Nickel 200	—	ASTM-B160 N02200

Technical Specifications

Size				Operating Torque						Flow			
NPS		DN		PTFE Virgin Teflon			CRPTFE Carbon Reinforced Teflon			Full Port		Standard Port	
Full	Std.	Full	Std.	ΔP , psi	in-lbs	N.m	ΔP , psi	in-lbs	N.m	Cv	Kv	Cv	Kv
1/4" F	—	DN8	—	1000	72	8,1	2800	72	8,1	8	6,9	—	—
3/8" F	1/2" R	DN12	DN15	1000	72	8,1	2800	72	8,1	8	6,9	8	6,9
1/2" F	3/4" R	DN15	DN20	1000	72	8,1	2800	96	10,8	15	12,9	15	12,9
3/4" F	1" R	DN20	DN25	1000	108	12,2	2500	120	13,6	34	29,2	34	29,2
1" F	1-1/4" R	DN25	DN32	1000	204	23,0	2500	240	27,1	45	38,7	48	41,3
1-1/4" F	1-1/2" R	DN32	DN40	1000	220	24,9	2500	419	47,3	78	67,1	85	73,1
1-1/2" F	2" R	DN40	DN50	1000	240	27,1	2500	779	88,0	135	116	125	108
2" F	2-1/2" R	DN50	DN65	700	432	48,8	2000	1460	165	250	215	275	237
2-1/2" F	3" R	DN65	DN80	700	1348	152	2000	2640	298	445	383	460	396
3" F	4" R	DN80	DN100	700	1460	165	1500	2995	338	680	585	700	602

Note: The normal service factor to be applied to these torques for actuator sizing is 1.2, but may be more or less depending upon operating conditions. Operating torques are also highly dependent upon seat material, and differential pressure across the closed ball. Consult the Marwin Ball Valve Actuator Sizing Program for operating torques and service factors for different materials, fluids, and operating conditions.

Marwin Valve

3000 Series Soft Seated – Ordering Schematic

Prefix	Series	Size	Body Material	1	2	3	4	5	6	7	8	9	10			
	3000F	—	100	—	S6	/	S	E	S	6	D	L	T	V	H	L

Prefix**	
	No Options
AM	Ammonia Service
EB	3" Bolted Bonnet Extension
FS	Fire Safe
NA	NACE Service
OX	Oxygen Service
VA	Vacuum Service

Series	
3000F	Full Port
3000R	Standard Port

Size	
025	1/4" (DN8) (Full Port Only)
038	3/8" (DN12) (Full Port Only)
050	1/2" (DN15)
075	3/4" (DN20)
100	1" (DN25)
125	1-1/4" (DN32)
150	1-1/2" (DN40)
200	2" (DN50)
250	2-1/2" (DN65)
300	3" (DN80)
400	4" (DN100) (Standard Port Only)

Body Material	
CS	Carbon Steel WCB
S6	Stainless Steel CF8M
A2	Alloy 20
DU	Duplex
HC	Hastelloy C
HB	Hastelloy B
MN	Monel
TI	Titanium
ZZ	Non-Standard

1&2	End Connections
PT	FNPT
SW	FSW
SE	FSW Extended
F1	150# FE
F3	300# FE
F6	600# FE
E4	BWE Extended Sch 40
E8	BWE Extended Sch 80
ZZ	Non-Standard

3&4	Trim (Ball/Stem)
S6	316 SS (standard for WCB & CF8M valves)
A2	Alloy 20
DU	Duplex
HC	Hastelloy C
HB	Hastelloy B
MN	Monel
TI	Titanium
ZZ	Non-Standard

5&6	Seat/Body Seals/Thrust Washer
TF	PTFE / PTFE / PTFE
RT	RPTFE / RPTFE / RPTFE
PA	PFA / PFA / PFA
SF	C-RPTFE / C-RPTFE / C-RPTFE
DL	Delrin / Viton / RPTFE
PK	PEEK / Viton / PEEK
CP	C-PEEK / Graphite / PEEK
KF	Kel-F / PTFE / PTFE
UM	UHMWPE / Viton / UHMWPE
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
07	PTFE/Kalrez
ZZ	Non-Standard

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

**Ordering Schematic Prefixes

AM Ammonia Service – Carbon and Stainless, no copper bearing materials, upstream vented ball, EPDM stem and body seals, virgin PTFE packing and seats, special cleaning and lube, special stem seal test.

EB 3" Bolted bonnet extension

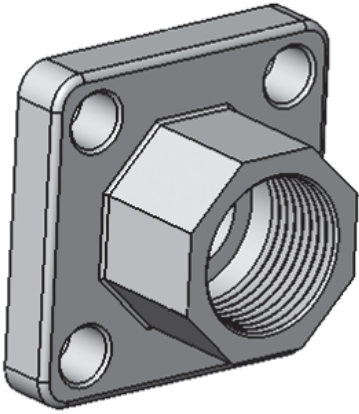
FS Fire Safe (API 607 tested) – B16.34 materials, NPT & SWE ends, Grafoil packing, graphite body seals, PTFE, RPTFE, CRPTFE seats.

NA NACE MRO103-2003 exposed bolting

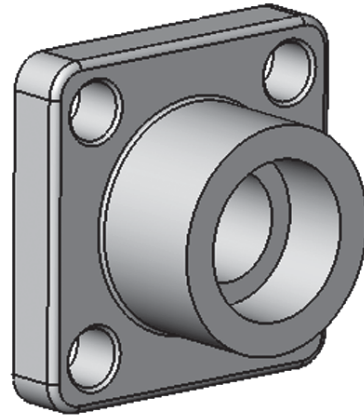
VA Vacuum Service – Special cleaning and lube, Viton stem, body, and emergency seals, virgin PTFE packing and seats, special stem seal and seat test

Note: ZZ non-standard options must be described on purchase order

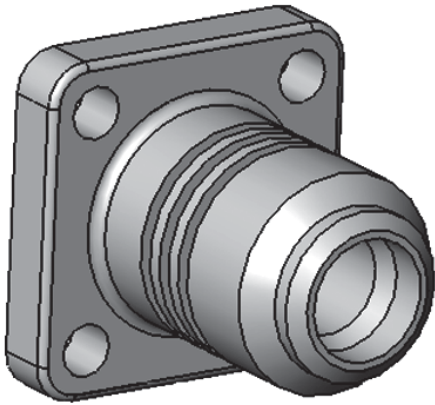
Marwin Valve
3000 Series & MS3000 Series – End Cap Options



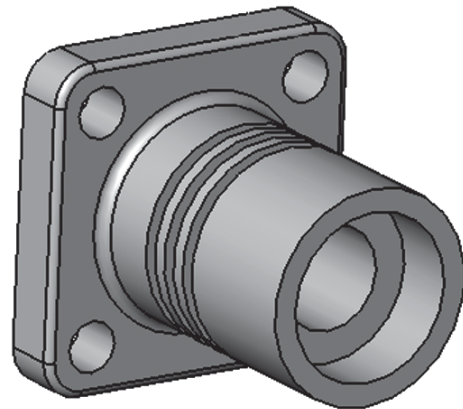
NPT/BSPT



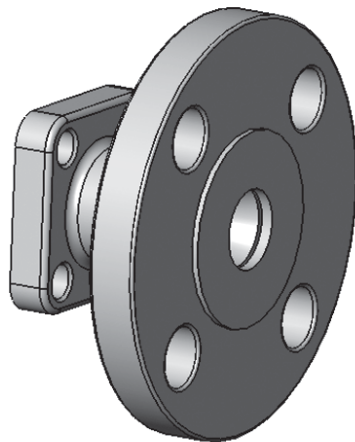
Socket Weld



Extended Butt Weld



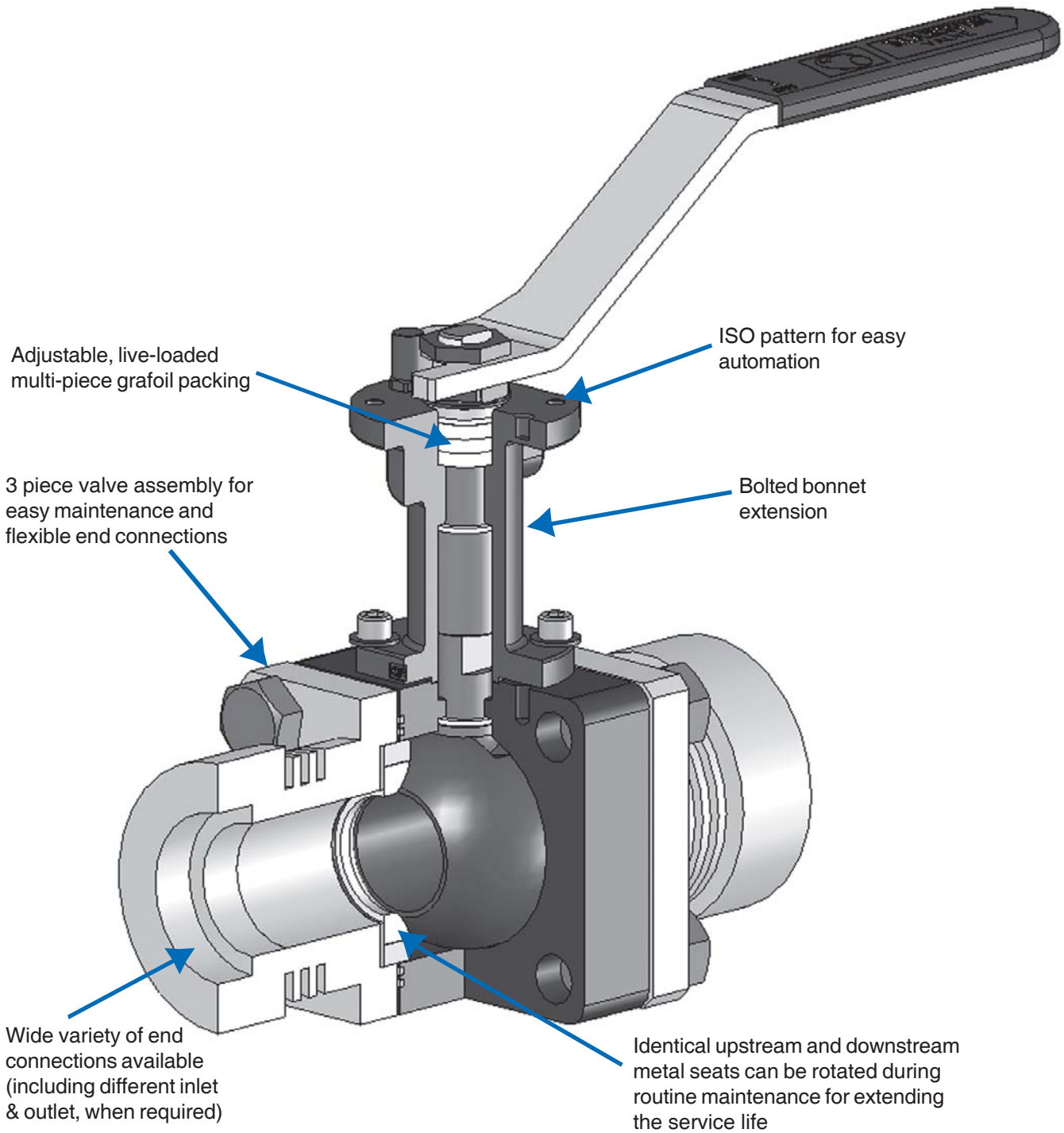
Extended Socket Weld



ANSI/DIN Flange

Marwin Valve MS3000 Series Metal Seat – Features

**Metal Seated
MS3000 Series
Ball Valve**



Marwin Valve

MS3000 Series Metal Seat – Seat Options

Marwinite Carbon Seats



Marwinite (M6) Carbon Seats. Marwinite seats with **ANSI Class VI** shutoff are a ***nickel impregnated compressed carbon graphite*** seating surface encased in a 316 stainless steel casing. Marwinite may be used in a wide temperature range, but is specifically designed for use at temperatures beyond the capabilities of normal resilient seat materials. Marwinite can be used for temperatures to 800°F for oxidizing, non-erosive services, and to 1000°F for non-oxidizing, non-erosive services. It works well in clean liquids with some lubricating properties, and is suitable for clean, wet saturated or superheated steam. It is practically inert, and is unaffected by most chemical reagents with the exception of highly oxidizing reagents such as high concentrations of nitric acid and oxychlorides.

Marwinite II (M2) Carbon Seats. Marwinite II seats with **ANSI Class V** shutoff are a ***compressed carbon graphite without nickel***. Marwinite II is only recommended for oxidizing, non-erosive services between 800°F and 1000°F, since it does not give as tight shutoff as Marwinite (M6).

Marwear Metal Seats



Marwear (W4) Metal Seats. Marwear seats with **ANSI Class IV** shutoff rating are comprised of dual 316 / 316L stainless steel base material. The ball is coated with a ***chrome carbide*** plasma spray coating. The seats are coated with a ***chrome oxide*** plasma spray ceramic coating, giving a hardness equivalent to Stellite 6B, but with reduced friction for better operating torque. These seats provide long service life, high temperature capabilities, and tight shutoff.

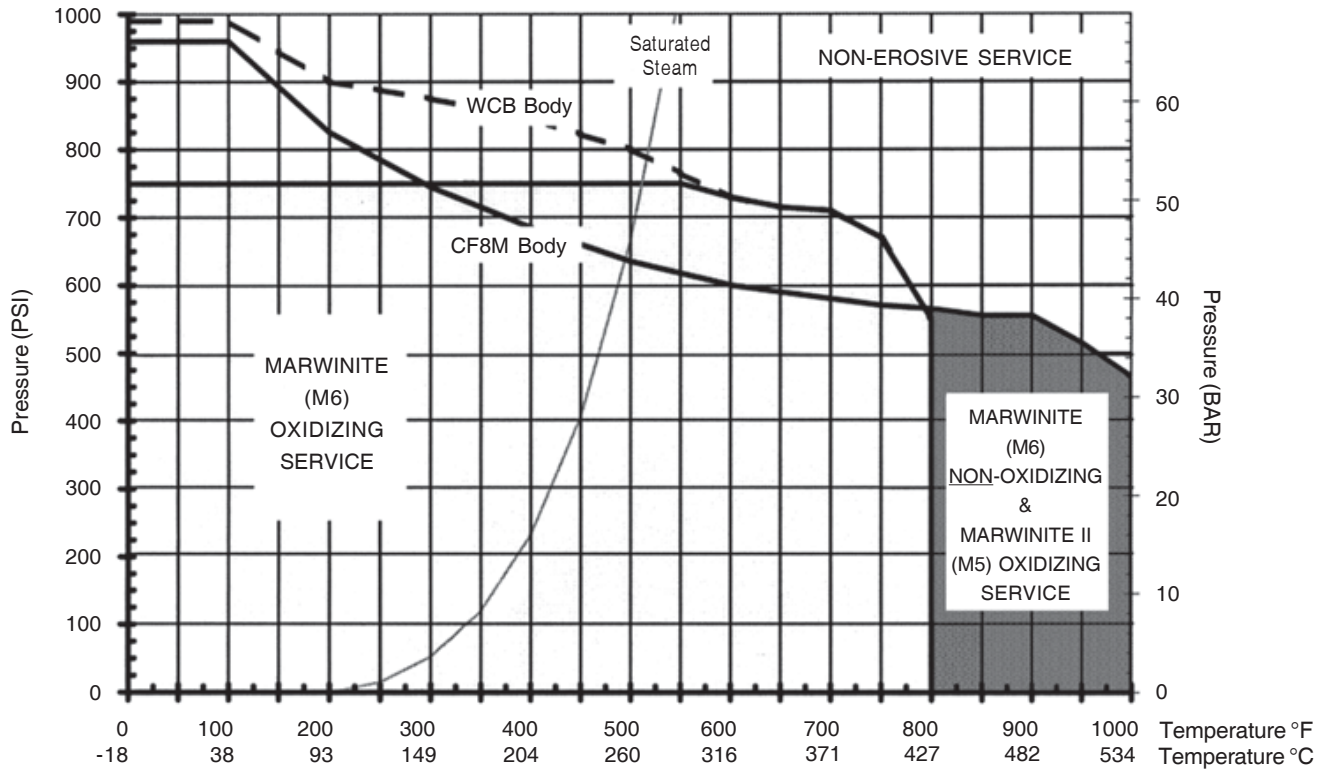
Marwear (W6) Metal Seats. Marwear seats with **ANSI Class VI** shutoff rating are comprised of dual 316 / 316L stainless steel base material. The ball and seats are coated with a ***chrome carbide*** plasma spray coating using an HVOF process¹, giving a surface hardness greater than Stellite 6B, but with reduced friction for better operating torque. These seats provide long service life, high temperature capabilities, and are perfect for steam and condensate applications.

Marwear II (W2) Metal Seats. Enhanced Marwear seats with **ANSI Class VI** shutoff are also comprised of dual 316 / 316L stainless steel base material. Both the ball and seats are coated with ***tungsten carbide*** plasma spray coating using an HVOF process¹, giving a surface hardness of approximately HRC 70, which is significantly greater than Stellite 6B. These seats provide extreme wear and abrasion resistance where elevated temperatures are not a factor.

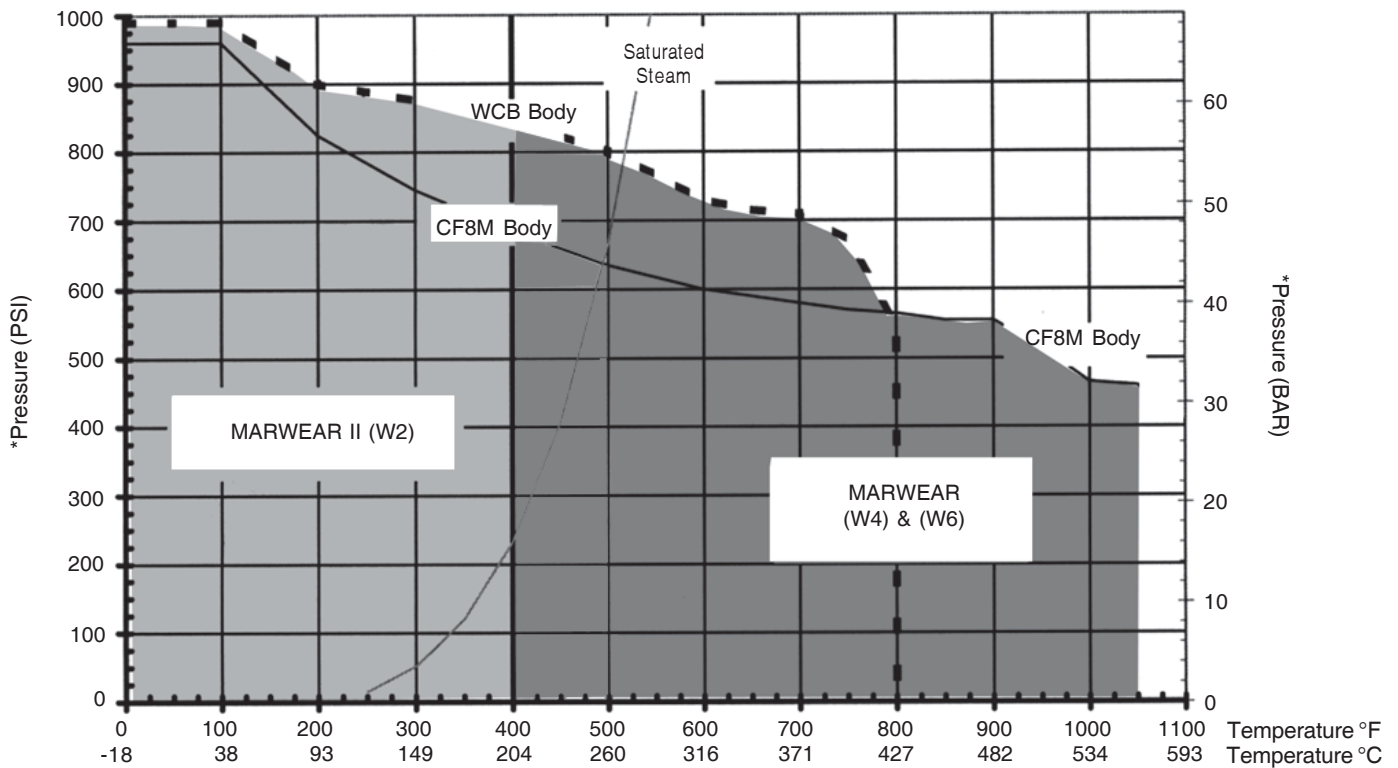
¹ High Velocity Oxygen Fuel (HVOF). This advanced coating process produces a dense surface that can be lapped to a mirror finish for tighter shutoff and lower operating torque.

Marwin Valve MS3000 Series Metal Seat – Pressure/Temperature Limits

Metal Seated MS3000 Series – Marwinite (Carbon) Seats

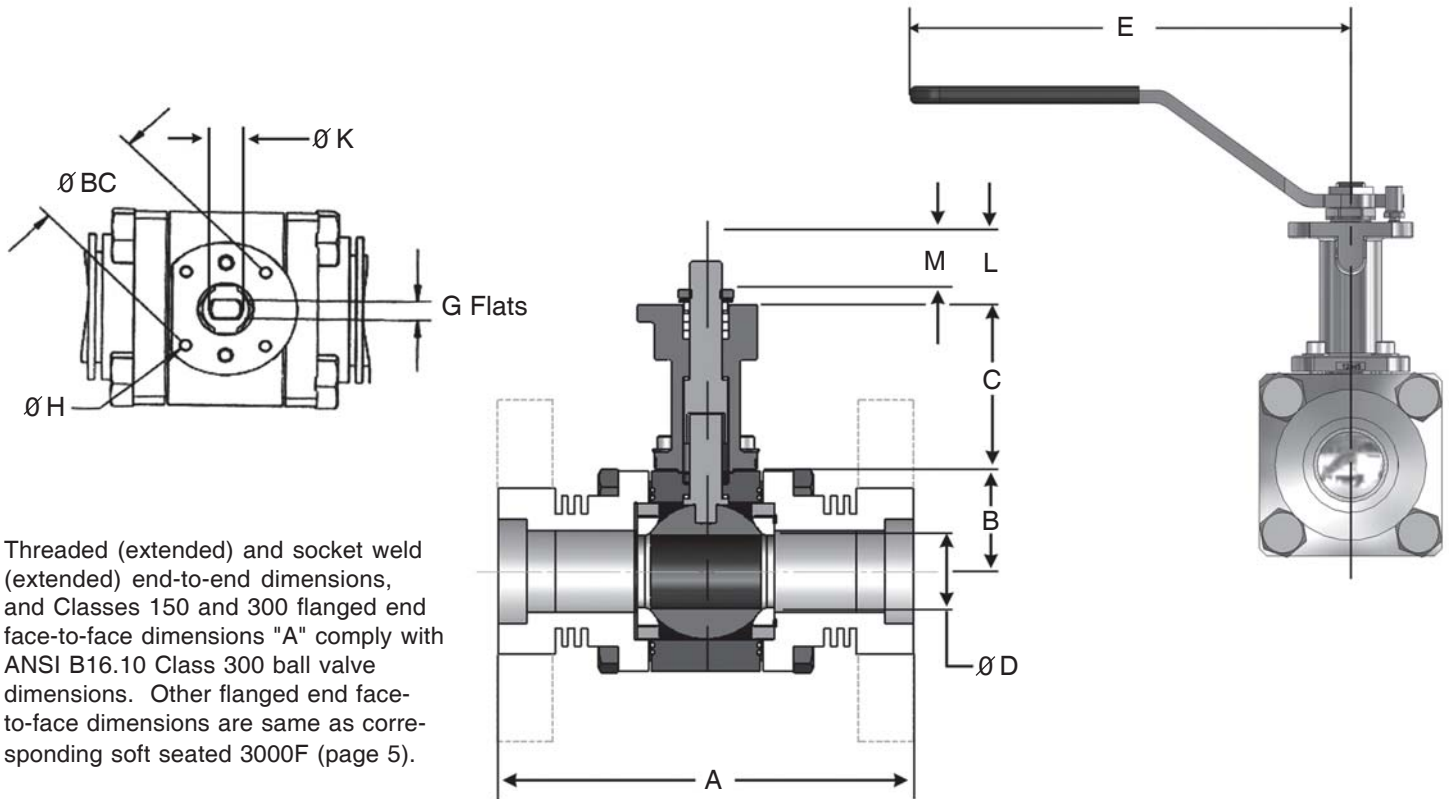


Metal Seated MS3000 Series – Marwear (Metal) Seats



*Note: up to 1440 psi (99 bar) available, please consult factory

Marwin Valve MS3000 Series Metal Seat – Dimensions



Threaded (extended) and socket weld (extended) end-to-end dimensions, and Classes 150 and 300 flanged end face-to-face dimensions "A" comply with ANSI B16.10 Class 300 ball valve dimensions. Other flanged end face-to-face dimensions are same as corresponding soft seated 3000F (page 5).

Dimensions – FNPT, FSW Extended, BWE Extended, Class 150 FE, Class 300 FE (inches)												
Size	Dimensions											Wt (lbs)
	A	B	C	D	E	H	BC	G Flats	K	L	M	
1/4"	5.50	1.3	3.0	0.44	6.1	10-24	1.42	0.215	0.39	0.56	0.27	3.2
3/8"	5.50	1.3	3.0	0.44	6.1	10-24	1.42	0.215	0.39	0.56	0.27	3.0
1/2"	5.50	1.3	3.0	0.44	6.1	10-24	1.42	0.215	0.39	0.56	0.27	3.6
3/4"	6.00	1.6	3.0	0.61	7.5	10-24	1.65	0.295	0.47	0.78	0.40	5.8
1"	6.50	1.5	3.0	0.83	7.5	10-24	1.65	0.295	0.47	0.87	0.45	8.0
1-1/4"	7.00	1.8	3.0	1.35	8.7	0.25-20	1.97	0.352	0.59	1.10	0.54	10.5
1-1/2"	7.50	1.8	3.0	1.35	8.7	0.25-20	1.97	0.352	0.59	1.10	0.54	14.1
2"	8.50	2.3	3.0	1.69	11.0	0.25-20	1.97	0.352	0.59	1.10	0.54	23.3
3"x2"	11.12	2.3	3.0	1.69	11.0	0.25-20	1.97	0.352	0.59	1.10	0.54	23.3

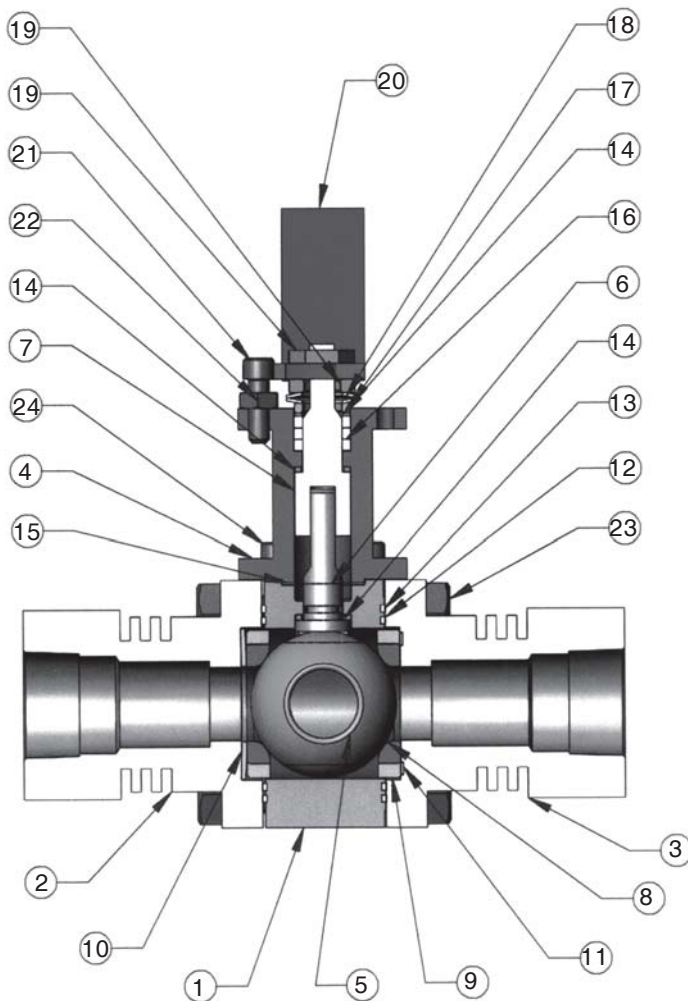
Dimensions – FNPT, FSW Extended, BWE Extended, Class 150 FE, Class 300 FE (mm)												
Size	Dimensions											Wt (kgs)
	A	B	C	D	E	H	BC	G Flats	K	L	M	
DN8	139,7	33	76	11,2	154	10-24	36,1	5,46	9,9	14,2	6,9	1,5
DN12	139,7	33	76	11,2	154	10-24	36,1	5,46	9,9	14,2	6,9	1,4
DN15	139,7	33	76	11,2	154	10-24	36,1	5,46	9,9	14,2	6,9	1,6
DN20	152,4	39	76	15,5	191	10-24	41,9	7,49	11,9	19,8	10,2	2,6
DN25	165,1	37	76	21,1	191	10-24	41,9	7,49	11,9	22,1	11,4	3,6
DN32	177,8	46	76	34,3	221	0.25-20	50,0	8,94	15,0	27,9	13,7	4,8
DN40	190,5	46	76	34,3	221	0.25-20	50,0	8,94	15,0	27,9	13,7	6,4
DN50	215,9	58	76	42,9	279	0.25-20	50,0	8,94	15,0	27,9	13,7	10,6
DN80x50	282,4	58	76	42,9	279	0.25-20	50,0	8,94	15,0	27,9	13,7	10,6

Marwin Valve MS3000 Series Metal Seat – Specifications

Technical Specifications

Size		Marwear Class IV Metal Seats @ 1440 psi		Marwear Class II & VI Metal Seats @ 1440 psi		Marwinite Carbon Seats @ 750 psi		Flow		Weight	
NPS	DN	in-lbs	N.m	in-lbs	N.m	in-lbs	N.m	Cv	Kv	lb	kg
1/4" X	8	202	22,8	134	15,2	128	14,5	8	6,9	3.2	1,5
3/8" X	12	202	22,8	134	15,2	128	14,5	8	6,9	3.0	1,4
1/2" X	15	202	22,8	134	15,2	128	14,5	8	6,9	3.6	1,6
3/4" X	20	418	47,2	358	40,4	330	37,3	25	21,5	5.8	2,6
1" X	25	492	55,6	422	47,7	388	43,8	34	29,2	8.0	3,6
1-1/4" X	32	835	94,3	735	83,0	563	63,6	100	86	14.5	4,8
1-1/2" X	40	835	94,3	735	83,0	563	63,6	105	90,3	14.1	6,4
2" X	50	1505	170	1345	152	940	106	180	155	23.3	10,6
3"x2" X	80x50	1505	170	1345	152	940	106	180	155	26.3	11,9

Material Specifications



Item	Part	Qty	SST	CS
1	Body	1	A351-CF8M	A216 WCB
2	End Cap Upstream	1	A479-316L SS	SA-A105 CS
3	End Cap Downstream	1	A479-316L SS	SA-A105 CS
4	Bonnet	1	ASTM A351 CF3M	ASTM A351 CF3M
5	Ball	1	316 SS	316 SS
6	Stem, Valve	1	A479-316 SS	A479-316 SS
7	Stem, Bonnet	1	A479-316 SS	A479-316 SS
8	Seat	2	Carbon	Carbon
9*	Support Ring	2	A479-316L SS	A479-316L SS
10	Seat Belleville	1	Inconel	Inconel
11	Seat Gasket	1	Graphite	Graphite
12	Body Seal	2	Graphite	Graphite
13	Secondary Body Seal	2	Graphite	Graphite
14	Thrust Washer	3	Carbon	Carbon
15	Bonnet Gasket	1	Graphite	Graphite
16	Packing	3	Grafoil	Grafoil
17	Packing Gland	1	316 SS	316 SS
18	Packing Belleville	2	SST	SST
19	Packing Nut	2	SST	SST
20	Handle	1	Steel	Steel
21	Stop Screw	1	SST	SST
22	Jam Nut	1	SST	SST
23	Body Bolts	8	A194-B8 SST	A197-B7 CS
24	Bonnet Bolts	4	A194-B8 SST	A197-B7CS

* For Marwinite Carbon Seats Only

MS3000 Series Ordering Schematic

Series		Size		Body Material		1	2	3	4	5	6	7	8	9	10
MS3000X	—	100	—	S6	/	S	E	S	3	W	4	G	R	H	L

Series	
MS3000X	Metal Seated 3000 Series

3&4	Trim (Ball/Stem)
S3	316 SS (standard for WCB & CF8M valves)
ZZ	Non-Standard

Size	
*025	1/4" (DN8)
*038	3/8" (DN12)
050	1/2" (DN15)
075	3/4" (DN20)
100	1" (DN25)
*125	1-1/4" (DN32)
150	1-1/2" (DN40)
200	2" (DN50)
*300	3"x2" (DN80x50)

5&6	Seat
M2	Marwinite II Class V
M6	Marwinite Class VI
W2	Marwear II Class VI
W4	Marwear Class IV
W6	Marwear Class VI
ZZ	Non-Standard

See page 16 for complete description of seating material

* Consult factory

Body Material	
CS	Carbon Steel WCB
S6	Stainless Steel CF8M
ZZ	Non-Standard

7&8	Packing/Stem-O-Ring
GR	Graphite
ZZ	Non-Standard

1&2	End Connections
PT	NPT
SE	FSW Extended
F1	150# FE
F3	300# FE
F6	600# FE
F9	900# FE
E8	BWE Extended Sch 80
E6	BWE Extended Sch 160
ZZ	Non-Standard

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

Note: ZZ non-standard options must be described on purchase order



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