

**MS3000X-xxx Series Valve**



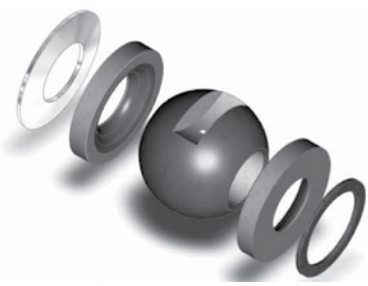
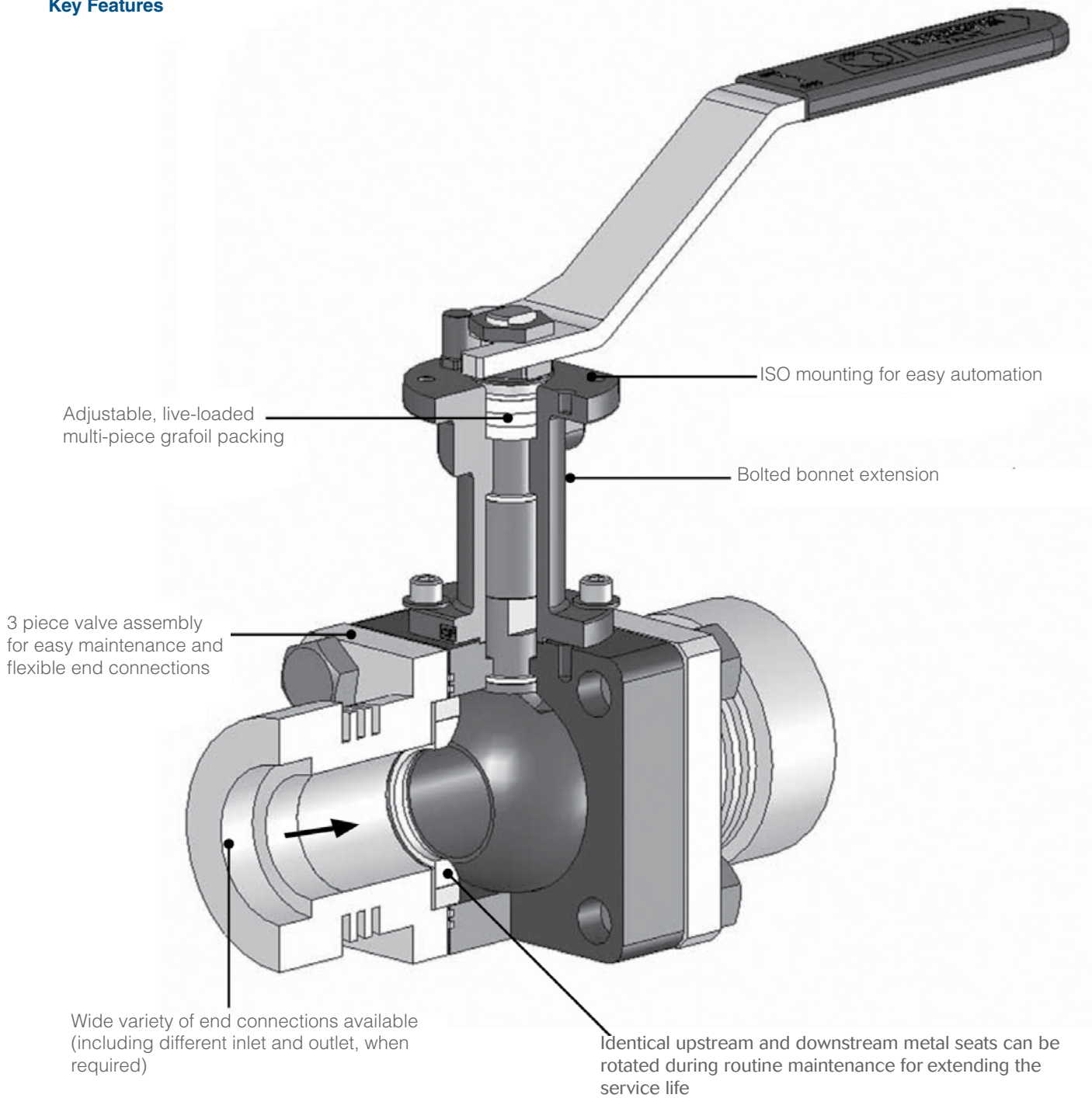
Quick Spec	
<b>Product Scope</b>	
Size Range	1/4" – 2", 3" x 2" (sch. 160 pipe bore)
Body Type	3-pc, non Swing-out design
End Connections	Flanged, NPT, Weld, Custom
Pressure Rating	up to 990 psi WOG (69 bar)
Temperature Range / WSP	up to 1000°F (538°C)
Body, Ball, Stem Material	Standard & Special alloys,
Ball Seats	316SS Chrome Carbide Coated
Stem Packing	Graphite
Body Seals	Graphite
Operator / Mounting Pad	Lever/ISO 5211
<b>Design Standards</b>	
Design	
Flange	ASME B165
Thread/Weld Design	ASME B1.20.1 / ASME B16.25
<b>Testing Standards</b>	
Pressure Testing	Class V
<b>Approvals</b>	

**Features**

- Heavy duty, metal seated design
- Designed for pressure up to 990 psi (69 bar)
- Temperatures up to 1000°F (538°C)
- Ideal for condensate, steam or gas service
- Wide variety of end connections available
- Class V shutoff
- Adjustable, live-loaded graphite packing
- 3-piece valve assembly for easy maintenance

Materials of Construction		
Part	Stainless Steel	Carbon Steel
Body	A351 CF8M	A216 WCB
End Cap (Upstream)	A479-316L SS	SA-A105 CS
End Cap (Downstream)	A479-316L SS	SA-A105 CS
Bonnet	ASTM A351 CF3M	
Ball	316SS / Chrome Carbide Coated	
Stem, Valve	17-4 PH	
Stem, Bonnet	17-4 PH	
Seat	316SS / Chrome Carbide Coated	
Support Ring	A479-316L SS	
Seat Belleville	Inconel	
Seat Gasket	Graphite	
Body Seal	Graphite	
Secondary Body Seal	Graphite	
Thrust Washer	Carbon	
Bonnet Gasket	Graphite	
Packing	Graphite	
Packing GLand	316SS	
Packing Bellville	316SS	
Packing Nut	SST	
Stop Screw	SST	
Jam Nut	SST	
Handle	Steel	
Body Bolts	A193 B7	A193 B8 CL1
Bonnet Bolts	304SS	

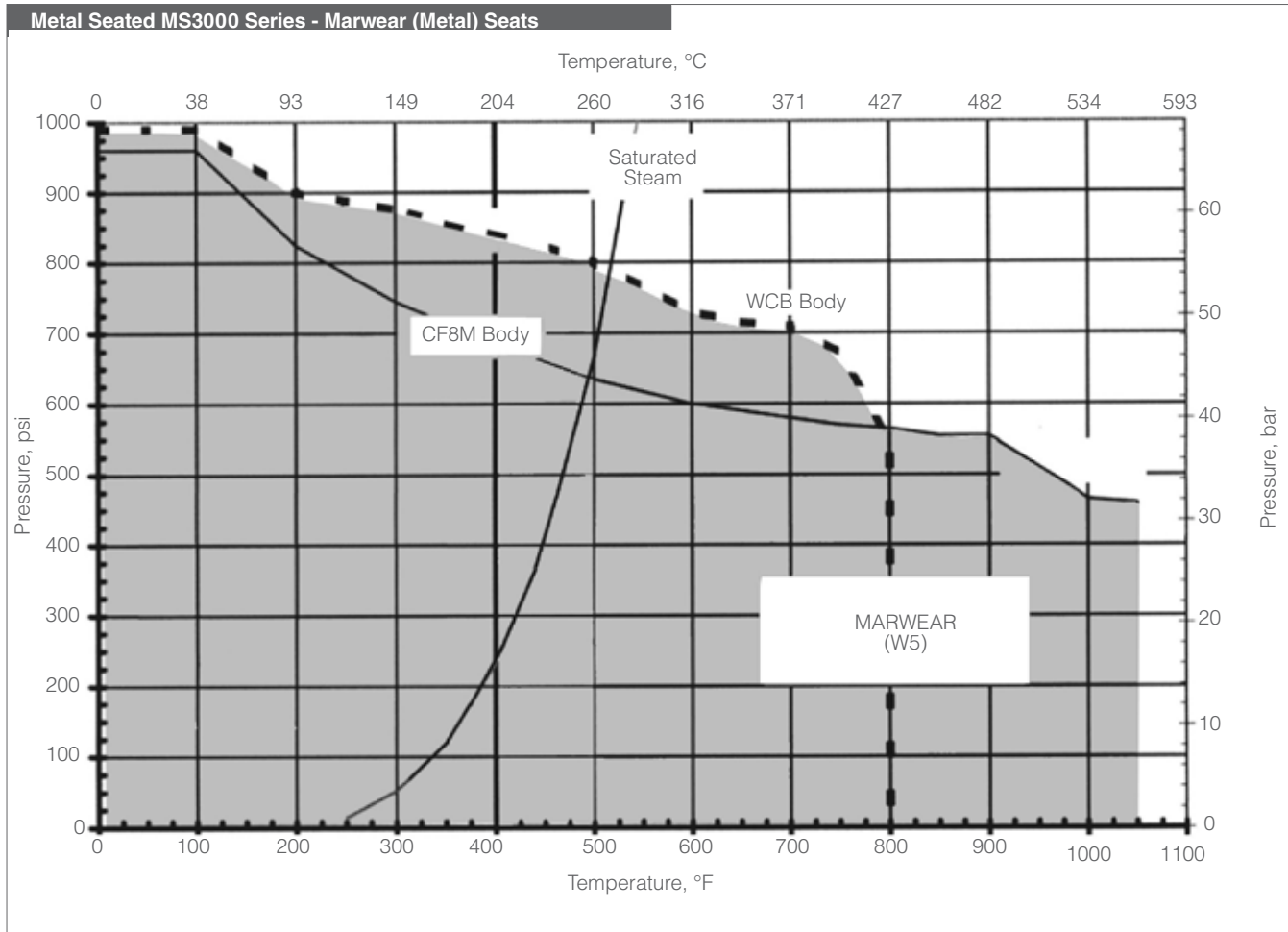
**Key Features**



**Marwear (W5) Metal Seats**

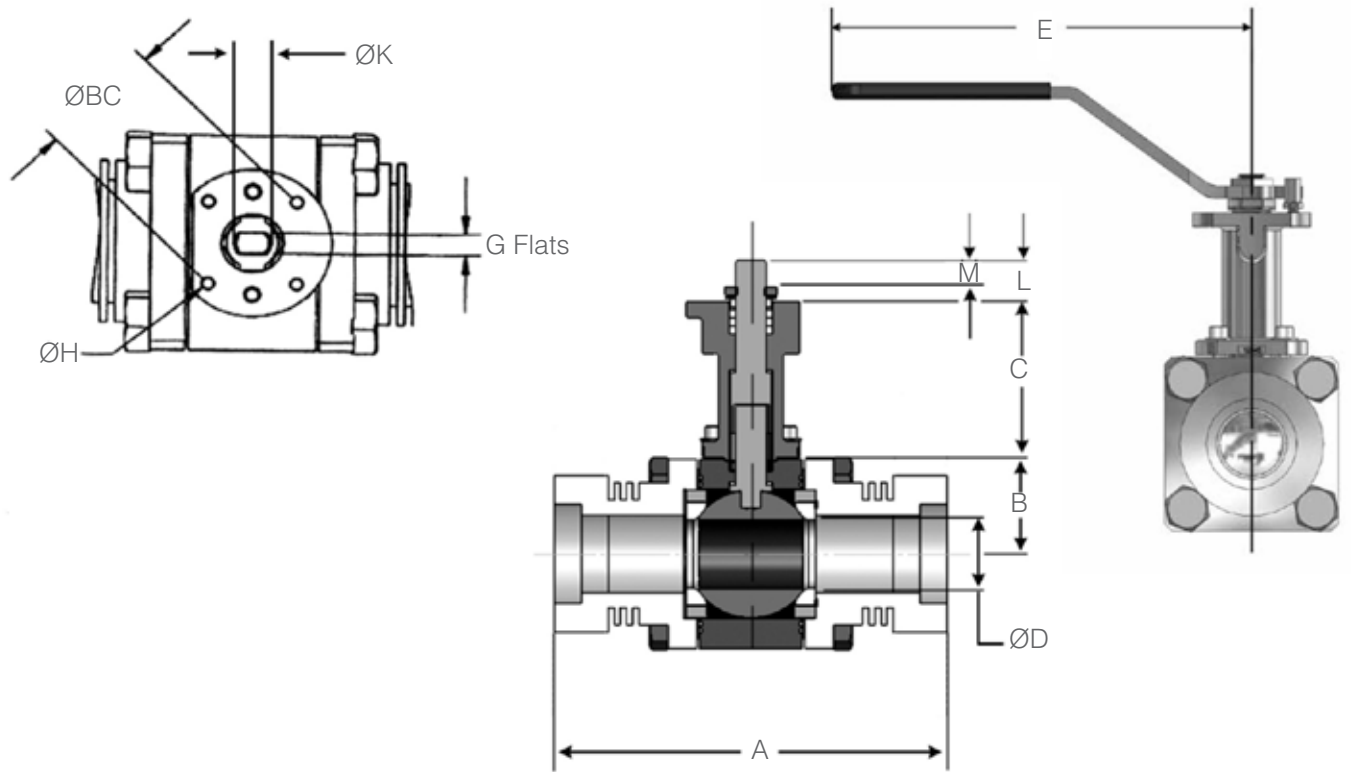
Marwear seats with ANSI Class V shutoff rating are comprised of dual 316 / 316L stainless steel base material. The ball and seats are coated with a chrome carbide plasma spray coating (HRC 64) using an HVOF process<sup>1</sup>, giving a surface hardness greater than Stellite 6B, but with reduced friction for better operating torque. These seats provide long service life, high temperature capabilities and are perfect for steam and condensate applications.

<sup>1</sup> **H**igh **V**elocity **O**xxygen **F**uel (HVOF). This advanced coating process produces a dense surface that can be lapped to a mirror finish for tighter shutoff and lower operating torque.

**Pressure / Temperature Limits**


Note: Maximum temperature for 17-4 PH stem is 800°F.

**Dimensions**



**FNPT Extended, FSW Extended, BWE Extended**

Dimensions, Inches												
Size	Dimensions											Weight (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"	6.50	1.6	3.0	0.61	7.5	10-24	1.65	0.295	0.47	0.78	0.40	5.8
1"	7.12	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"	7.50	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	10.5
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" x 2"	11.12	2.3	3.0	1.69	11.0	0.25-20	1.97	0.352	0.59	1.10	0.54	26.3

Dimensions, mm												
Size	Dimensions											Weight (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	165,1	39	76	15,5	191	10-24	41,9	7,49	11,9	19,8	10,2	2,6
DN25	180,8	37	76	21,1	191	10-24	41,9	7,49	11,9	22,1	11,4	3,6
DN32	190,5	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	11,9

Technical Specifications			
Valve Size Inches	Marwear Class V Metal Seats @ 1000 psi	Flow	Weight
	in-lbs	Cv	lbs
1/4"X	134	8	3.2
3/8"X	134	8	3.0
1/2"X	134	8	3.6
3/4"X	358	25	5.8
1"X	422	34	8.0
1-1/4"X	735	100	10.5
1-1/2"X	735	105	14.1
2"X	1345	180	23.3
3" x 2"X	1345	180	26.3

Technical Specifications			
Valve Size DN	Marwear Class V Metal Seats @ 69 bar	Flow	Weight
	N.m	Kv	kgs
DN8	15,2	6,9	1,5
DN12	15,2	6,9	1,4
DN15	15,2	6,9	1,6
DN20	40,4	21,5	2,6
DN25	47,7	29,2	3,6
DN32	83,0	86	4,8
DN40	83,0	90,3	6,4
DN50	152	155	10,6
DN80x50	152	155	11,9

**Ordering Schematic**

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

Series	
MS3000X	Metal Seated 3000 Series

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" x 2" (DN80 x 50)

\* Consult factory

Body Material	
CS	Carbon Steel WCB
S6	Stainless Steel CF8M
ZZ	Other Special Alloy

1&2 End Connections	
PT	FNPT
SE	FSW Extended
F1	150# FE
F3	300# FE
F6	600# FE
F9	900# FE
E4	XBWE Extended Sch. 40
E8	XBWE Extended Sch. 80
E6	BWE Extended Sch 160
ZZ	Non-standard

3&4 Trim (Ball / Stem)	
S3	316SS Chrome Carbide Coated Ball & Seats / 17-4 PH Stem (Standard)
ZZ	Other Special Alloy

5&6 Seat	
W5	Marwear Class V
ZZ	Non-standard

7&8	Packing
GR	Graphite
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

11&12	Operation
HL	Lever
NN	None
P2	UT-0-DA STD
P3	UT-1-DA STD
P4	UT-2-DA STD
P5	UT-2.5-DA STD
P6	UT-3-DA STD
P7	UT-3.5-DA STD
P8	UT-4-DA STD
PF	UT-4.5-DA STD
P9	UT-5-DA STD
PA	UT-6-DA STD
PB	UT-7-DA STD
S1	UT-0-SR STD
S2	UT-1-SR STD
S3	UT-2-SR STD
S4	UT-2.5-SR STD
S5	UT-3-SR-STD
S6	UT-3.5SR STD
S7	UT-4-SR STD
SF	UT-4.5-SR STD
S8	UT-5-SR STD
S9	UT-6-SR STD
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
M7	ER-38-14-4 110 VAC
MC	ER-50-68-4 110 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
4B	4W 8551-120VAC N4 UT-0/5	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