

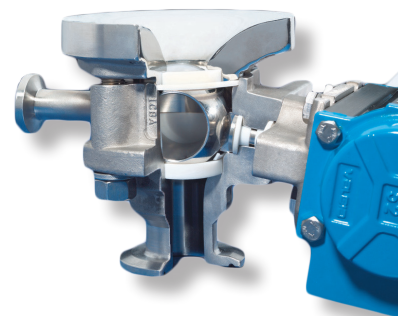
PBM ANGLE STEM TANK BOTTOM VALVES

AF Series 1, 1" - 6"



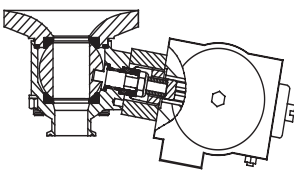
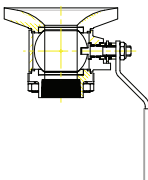
DESIGN FEATURES:

- Unique Adjust-O-Seal® feature allows in-line valve adjustment to compensate for normal wear on valve seats. Note: **AF Series Tank Bottom valves DO NOT have o-rings.**
- Designed for applications where automation may interfere with tank head or jacket.
- Pad radius facilitates efficient drainage and reduces the pocket area above the ball.
- Stem assembly accommodates PBM Direct Mount Actuation for accurate alignment and increased cycling life.
- Fire Rated option, tested to API-607
- Valves are rated for full vacuum.
- Certified Material Test Report (CMTRS) provided for weld pads and sanitary wetted components
- Surface finishes are achieved without the use of ADIs (Animal Derived Ingredients)



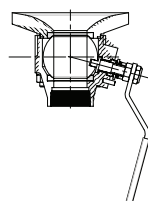
SPECIFICATIONS	Angle Stem Valves
Sizes	1" - 6" depending on series
Material	316L, 316L SS, Hastelloy™, AL6XN™, others
End Connections	Hygienic clamp, FNPT, 150# RF flange, others
Seats & Seals	VTFE (Sanitary), RTFE (Industrial), others
Stem Packing Material	VTFE and RTFE
Body Bolts & Nuts	18-8 Stainless Steel
Maximum Working Pressure	up to 900 psig CWP depending on valve series, size and temperature
Temperatures	up to 450°F depending on seat and seal material
Polish	Standard internal polish of 125 Ra ID

CV Values (gpm), AF Series 1		
Size	End Connection	
	X-	Q, L
1"	63	65
1-1/2"	150	143
2"	280	280
3"	505	700
4"	690	880
6"	1,430	1,500

Why an Angle Stem (AF) Flush Tank ball valve?

The PBM Angle Stem Flush Tank valve provides actuator clearance on jacketed or insulated vessels. On the 1" and the 1-1/2" AF valves, the stem is at a 10° offset from that of a straight stem Flush Tank (FT) ball valve and 15° for the 2", 3", 4" and 6" AF valves.



How To Order:

PRODUCT (1-2)		SIZE (5)		END CONNECTIONS		SEAT & SEAL		WELD PAD		BALL & STEM		OPERATOR		POLISH					
MATERIAL (3-4)		SERIES (6)		(7-8)		(9)		(10-11)		(12)		(13-14)		(15-16)					
AF	H-	Cast 316/316L S / S	E	1"	1	X-	Hygienic Clamp	A	RTFE Seats / Seals	--	Standard Weld Pad	-	Standard Ball and Stem	--	W/ Standard Lever Handle	-	30 Ra ID		
	HL	Cast 316L S / S	G	1-1/2"		Q-	FNPT	B	RTFE Seats / Seals VTFE Cavity Fillers	02	w/o weld pad w/ shipping pad	F	Internal / External Grounding	02	W/O Handle W/ Stem Actuator Prep	A	20 Ra ID		
	C-	Hastelloy C-276	H	2"		L-	150# RF Flange	C	VTFE Seats / Seals	Other Weld Pad Options available - Contact PBM.		G	17-4PH Stem	04	Locking Lever Handle	D	15 Ra ID		
	Y-	Hastelloy C-22	K	3"		VTFE seats & seals Std for "X" RTFE seats & seals Std for "Q" & "L"		D	VTFE Seats / Seals VTFE Cavity Fillers			08	Gear Operator (Req'd for 6")	E	10 Ra ID				
			L	4"				H	S-TEF® Seats / Seals			20	DA 80psig actuator	F	20 Ra ID after Electro Polish				
	P-	AL6XN	M*	6"				I	S-TEF® Seats / Seals VTFE Cavity Fillers			34	SR 80psig actuator	G	15 Ra ID after Electro Polish				
										41	SR 60psig actuator	H	10 Ra ID after Electro Polish						

Other material options available - Contact PBM.

<http://pbmvalve.com/build-a-part-number>

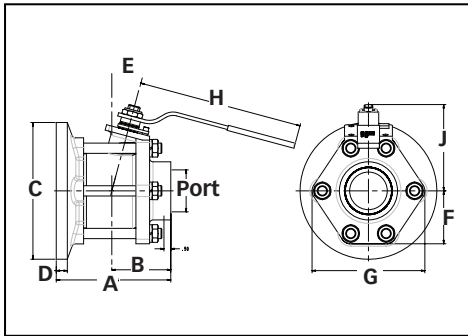
Other seat/seal options available - Contact PBM.

Other operator options available - Contact PBM.

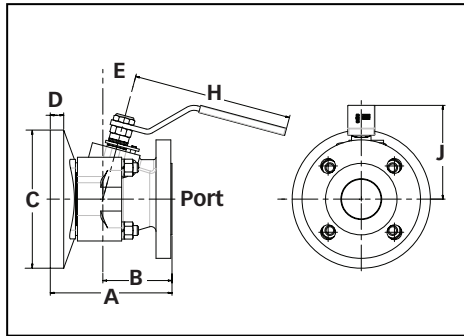
More polish available - Contact PBM.

PBM Angle Stem Tank Bottom Valve, Series 1, Manual

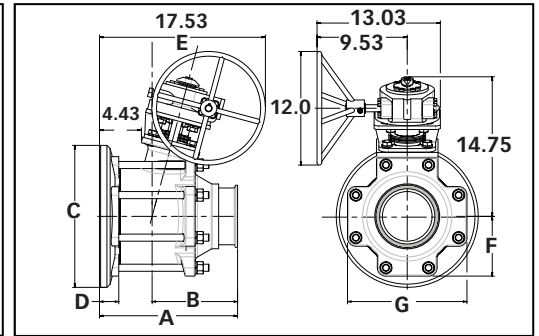
Angle Stem Flush Tank Valve, FNPT End



Angle Stem Flush Tank Valve, Flanged End



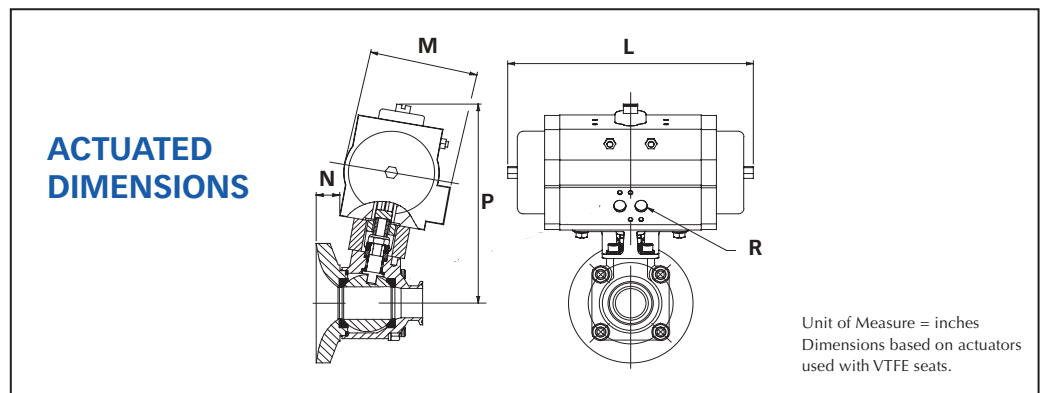
Angle Stem Flush Tank Valve with Gear Operator



Angle Stem Tank Bottom Valve Dimensioned valves in inches

Valve Size	Size Code	I.D. Port	Face to Face A			C to End B			Pad Dia. C	Pad Width D	C to Bottom		Handle Length H	C to Top J	Approx. Wgt. (lbs.)		
			X	Q	L	X	Q	L			F	G			X	Q	L
1"	E	1.00	3.88	3.58	4.14	2.24	1.94	2.50	3.70	0.53	1.69	3.38	6.09	3.07	5.83	6.84	7.74
1-1/2"	G	1.50	4.71	4.97	5.53	2.43	2.69	3.25	5.50	0.62	1.78	3.44	8.06	4.48	12.25	12.88	16.26
2"	H	1.94	5.51	5.64	6.18	2.84	2.96	3.50	7.00	0.68	2.12	4.24	8.06	4.38	19.64	19.94	25.41
3"	K	2.75	7.88	8.38	9.19	3.81	4.31	5.12	10.00	0.79	3.87	8.25	12.06	6.31	62.60	63.50	74.81
4"	L	3.50	8.94	9.52	10.48	4.66	5.24	6.20	11.50	0.91	4.47	8.94	12.06	6.78	89.24	90.50	106.61
6"	M	5.24	14.59	NA	15.61	9.03	NA	10.05	15.00	1.04	6.31	12.62	NA	11.89	450.39	NA	474.11

ID Surface Finish, Ra Readings for Valves per ASME BPE			
Surface Finish	PBM Polish Code	μ-in.	μ-m.
Mechanical Polish			
SF 1	A	20 Ra max	0.51
SF 2	A	25 Ra max	0.64
SF 3	-	30 Ra max	0.76
Mechanical Polish and Electropolish			
SF 4	G	15 Ra max	0.38
SF 5	F	20 Ra max	0.51
SF 6	F	25 Ra max	0.64



Size	80, 60 PSI Double Acting					80 PSI Spring Return					60 PSI Spring Return				
	L	M	N	P	R	L	M	N	P	R	L	M	N	P	R
1"	5.55	2.79	0.85	6.67	1/8 NPT	8.27	3.72	0.73	7.86	1/8 NPT	8.27	3.72	.73	7.86	1/8 NPT
1-1/2"	8.27	3.72	1.55	8.90	1/8 NPT	9.48	4.17	1.37	9.45	1/8 NPT	10.83	4.85	1.10	9.96	1/4 NPT
2"	8.27	3.72	2.49	8.97	1/8 NPT	10.83	4.85	2.07	10.01	1/4 NPT	13.12	5.39	1.86	11.32	1/4 NPT
3"	13.12	5.39	3.32	13.80	1/4 NPT	14.65	5.83	3.32	14.35	1/4 NPT	16.85	6.45	3.32	15.20	1/4 NPT
4"	13.12	5.39	3.66	14.41	1/4 NPT	16.85	6.45	3.66	15.58	1/4 NPT	16.85	6.45	3.66	15.58	1/4 NPT
6"	16.85	6.45	4.88	19.24	1/4 NPT	22.78	8.54	4.66	22.41	1/4 NPT	26.46	11.42	4.37	26.98	1/4 NPT



<http://www.pbmvalve.com/valves/tank-bottom-valve>

<http://pbmvalve.com/maintenance-instructions>

www.PBMValve.com

PBM, Inc. • 1070 Sandy Hill Road, Irwin, PA 15642

Phone: 800.967.4PBM • 724.863.0550

E-mail: info@pbmvalve.com

