

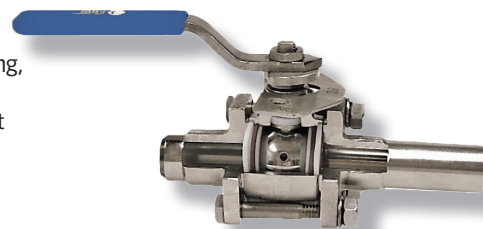
# PBM IGENIX® CLEAN STEAM BALL VALVES

## CS Cast Series 9/Forged Series 8, 1/2" - 6"



### DESIGN FEATURES:

- Unique Adjust-O-Seal® feature allows in-line valve adjustment to compensate for normal wear on valve seats. Note: Clean steam valves have o-rings!
- Upstream and downstream bubble-tight sealing capability allows valve body cleaning, purging, and draining.
- Stem assembly accommodates PBM Direct Mount Actuation for accurate alignment and increased cycling life.
- Forged and cast valves are low-controlled ferrite.
- True-Bore® (valve bore same as connecting tubing) – no puddling
- ASME BPE compliant
- USP Class VI elastomers and FDA compliant materials available
- Valves are full vacuum
- Certified Material Test Report (CMTRS) provided for wetted components
- Surface finishes are achieved without the use of ADIs (Animal Derived Ingredients)



SPECIFICATIONS	2-Way Valves
Sizes	1/2" - 6" Series 9, 1/2" - 4" Series 8
Material	316L, low ferrite cast and forged, Hastelloy™, AL6XN™, others
End Connections	Extended tube, hygienic clamp, compression ends (1/2" - 1")
Seats & Seals	White TFM™ standard, others available
O-rings	EPR O-ring energizer (Viton V1274-75/80, EPR E3608-70, others available)
Stem Packing Material	TFM™ and S-TEF®
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 20 Ra ID Series 8, 30 Ra ID Series 9

CV Values (gpm), Series 8/Series 9		
Size	End Connections	
	F-	X-
1/2"	6.5	8
3/4"	23	28
1"	55	65
1-1/2"	160	193
2"	365	420
2-1/2"	700	800
3"	900	1,040
4"	1,800	2,080
6"	4,200	5,000

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

### How To Order:

PRODUCT (1-2)		SIZE (5)		END CONNECTIONS		SEAT & SEAL		PURGES		BALL & STEM		OPERATOR		POLISH			
MATERIAL (3-4)		SERIES (6)		(7-8)		(9)		(10-11)		(12)		(13-14)		(15-16)			
CS	HL	Cast (Ser. 9) 316L S / S	C	1/2"	8	F -	Ext. Butt weld for Tube	G	TFM Seats / Seals Viton O-Rings	--	No Purge Port or Ball Option	-	Standard Ball and Stem	--	W/ Standard Lever Handle	-	30 Ra ID (Std. Series 9)
	HF	Forged 316L S / S	D	3/4"	9	FX	Ext. Butt weld for Tube by Hygienic Clamp	J	TFM Seats / Seals / VTFE Cav Fill / Viton O-Rings	-8	Self Flushing Ball	F	Internal / External Grounding	02	W/O Handle W/ Stem Actuator Prep	A	20 Ra ID (Std. Series 8)
		Other material options available - Contact PBM.		E	1"	X-	Hygienic Clamp	Z	TFM Seats / Seals EPR O-Rings	-V	Slotted V-Ball	G	17-4PH Stem	04	Locking Lever Handle	D	15 Ra ID
				G	1-1/2"	G-	Female Cherry Burrell			-W	30° V-Ball			08	Gear Operator (Req'd for 6")	E	10 Ra ID
				H	2"	H-	Male Cherry Burrell	2	TFM Seats / Seals / VTFE Cav Fill / EPR O-Rings	-X	45° V-Ball			18	Extended Handle (2-1/2" thru 4")	F	20 Ra ID after Electro Polish
				J*	2-1/2"					-Y	60° V-Ball			71	Extended Handle (1/2" thru 2")		
				K	3"			H	S-TEF® Seats / Seals Viton O-Rings	Other Purge Port & Ball Options - Contact PBM				20	DA 80psig actuator	G	15 Ra ID after Electro Polish
				L	4"			0	S-TEF® Seats / Seals EPR O-Rings					27	DA 60psig actuator		
				M*	6"	* Not available in forged.								34	SR 80psig actuator	H	10 Ra ID after Electro Polish
														41	SR 60psig actuator		

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

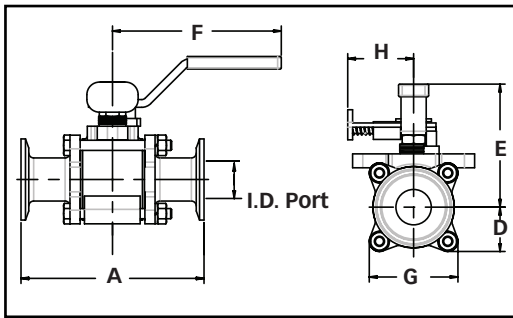
Other seat/seal options available - Contact PBM

Other operator options available - Contact PBM

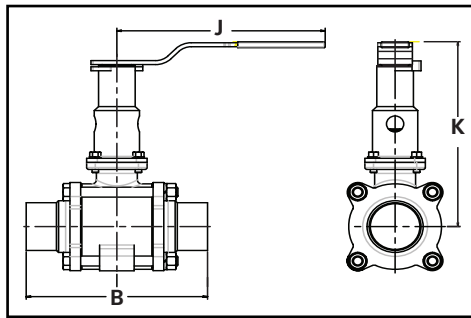
More polish available - Contact PBM

# PBM Igenix® Clean Steam Cast Series 9/Forged Series 8 Manual

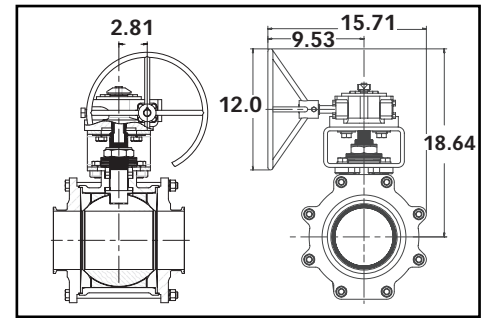
2-Way Valve with Locking Handle



2-Way Valve with Extended Locking Handle



2-Way Valve with Gear Operator (6" only)

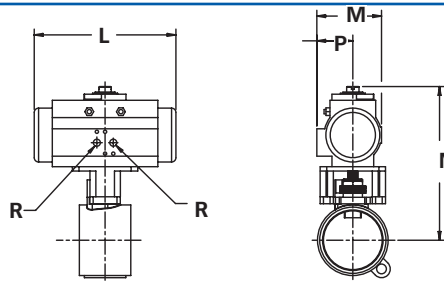


2-Way Sanitary Dimensioned valves in inches										Locking Handle		Ext. Locking Handle		
Valve Size	Size Code	I.D. Port	A	B	D	E	F	G	Approx. Wgt (lbs)	H	Hole Dia. for Lock	J	K	Hole Dia. for Lock
1/2"	C	0.37	3.50	5.50	0.75	2.05	4.00	1.50	1.1	1.55	.28	5.09	4.00	0.31
3/4"	D	0.62	4.00	6.00	0.85	2.23	4.00	1.68	1.4	1.55	.28	5.09	4.14	0.31
1"	E	0.87	4.50	6.50	1.09	3.01	4.15	2.18	2.7	1.62	.25	5.09	5.44	0.31
1-1/2"	G	1.37	5.50	7.50	1.68	5.02	8.81	3.31	8.9	2.57	.38	8.00	7.46	0.38
2"	H	1.87	6.25	8.00	2.15	4.47	8.03	4.30	15.0	2.57	.38	8.00	7.74	0.38
2-1/2"*	J	2.37	8.00	11.50	2.79	6.51	12.06	5.58	36.0	3.47	.38	12.10	11.36	0.38
3"	K	2.87	8.00	10.50	2.78	6.77	12.06	5.58	33.0	3.47	.38	12.06	11.61	0.44
4"	L	3.84	10.00	13.00	3.66	7.53	12.06	7.33	67.0	3.47	.38	12.06	12.38	0.44
6"*	M	5.78	13.00	17.00	6.18	NA	NA	12.37	164.0	NA	NA	NA	NA	NA

\*Cast Series 9 Only

## ACTUATED DIMENSIONS

Unit of Measure = inches  
Dimensions based on actuators used with TFM™ seats.



Size	80 PSI Spring Return					60 PSI Spring Return					60, 80 PSI Double Acting				
	L	M	N	P	R	L	M	N	P	R	L	M	N	P	R
1/2"	5.55	2.80	5.45	1.61	1/8 NPT	5.55	3.17	5.90	1.77	1/8 NPT	5.55	2.80	5.45	1.61	1/8 NPT
3/4"	5.55	2.80	5.59	1.61	1/8 NPT	6.46	3.17	6.04	1.77	1/8 NPT	5.55	2.80	5.59	1.61	1/8 NPT
1"	6.46	3.17	6.51	1.77	1/8 NPT	8.27	3.72	7.22	2.07	1/8 NPT	5.55	2.80	6.06	1.61	1/8 NPT
1-1/2"	9.47	4.17	9.65	2.30	1/8 NPT	10.83	4.84	9.65	2.68	1/4 NPT	8.27	3.72	9.10	2.07	1/8 NPT
2"	10.83	4.84	10.45	2.68	1/4 NPT	13.11	5.39	11.80	2.87	1/4 NPT	8.27	3.72	9.39	2.07	1/8 NPT
2-1/2"	13.11	5.39	13.48	2.87	1/4 NPT	14.65	5.83	13.96	3.15	1/4 NPT	13.11	5.39	13.48	2.87	1/4 NPT
3"	14.65	5.83	14.21	3.15	1/4 NPT	17.13	6.46	15.10	3.44	1/4 NPT	13.11	5.39	13.73	2.87	1/4 NPT
4"	17.13	6.46	15.86	3.44	1/4 NPT	19.69	7.32	16.80	3.90	1/4 NPT	13.11	5.39	14.51	2.87	1/4 NPT
6"	22.78	8.54	23.02	4.29	1/4 NPT	22.64	11.42	27.78	5.71	1/4 NPT	22.78	8.54	23.02	4.29	1/4 NPT

Manual Valves with Tube Ends when used with insulation		
Tube OD	Insulation max with no extension	Insulation max with extension
0.50	0.76	2.68
0.75	0.79	2.72
1.00	1.45	3.88
1.50	3.10	5.57
2.00	2.31	5.60
2.50	4.00	8.88
3.00	4.08	8.88
4.00	4.35	9.12



<http://pbmvalve.com/valves/clean-steam-true-bore®-valve>

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

[www.PBMValve.com](http://www.PBMValve.com)

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

Phone: 800.967.4PBM • 724.863.0550

E-mail: [info@pbmvalve.com](mailto:info@pbmvalve.com)

© Copyright 2017 PBM, Inc. PB-CS89

