

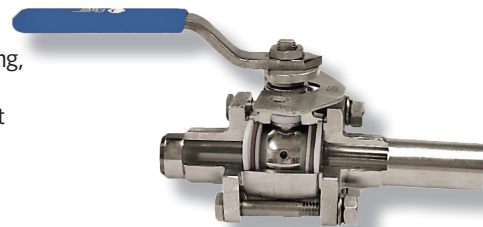
# PBM IGENIX® CLEAN STEAM BALL VALVES

## 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
Temperatures	Ambient for TFM™ to 400° F, S-TEF® to 450° F
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)	C	1/2"	8	F -	G	--	-	--	-	--	-	-	-
		316L S / S				Ext. Butt weld for Tube	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	D	3/4"	9	FX	J	-8	F	02	A				
		316L S / S				Ext. Butt weld for Tube by Hygienic Clamp	TFM Seats / Seals / VTFE Cav Fill / Viton O-Rings	Self Flushing Ball	Internal / External Grounding	W/O Handle W/ Stem Actuator Prep	20 Ra ID (Std. Series 8)				
			E	1"		X-	Z	-V	G	04	D				
			G	1-1/2"		Hygienic Clamp	TFM Seats / Seals EPR O-Rings	Slotted V-Ball	17-4PH Stem	Locking Lever Handle	15 Ra ID				
			H	2"		G- Female Cherry Burrell		-W		08	E				
			J*	2-1/2"		H- Male Cherry Burrell		30° V-Ball		Gear Operator (Req'd for 6")	10 Ra ID				
			K	3"			2	-X		18	F				
			L	4"			TFM Seats / Seals / VTFE Cav Fill / EPR O-Rings	45° V-Ball		Extended Handle (2-1/2" thru 4")	20 Ra ID after Electro Polish				
			M*	6"				-Y		71	F				
								60° V-Ball		Extended Handle (1/2" thru 2")	Electro Polish				
							H	Other Purge Port & Ball Options - Contact PBM		20	G				
										DA 80psig actuator	15 Ra ID after Electro Polish				
							0			27	G				
							S-TEF® Seats / Seals Viton O-Rings			DA 60psig actuator	Electro Polish				
										34	H				
										SR 80psig actuator	10 Ra ID after Electro Polish				
										41	H				
										SR 60psig actuator	Electro Polish				

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

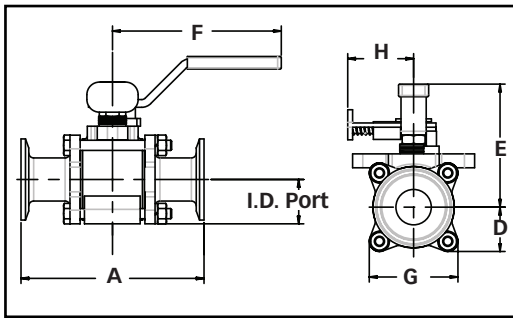
Other seat/seal options available - Contact PBM

Other operator options available - Contact PBM

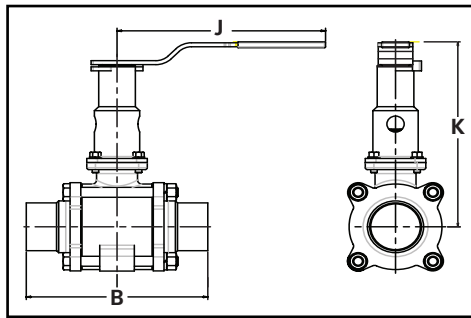
More polish available - Contact PBM

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

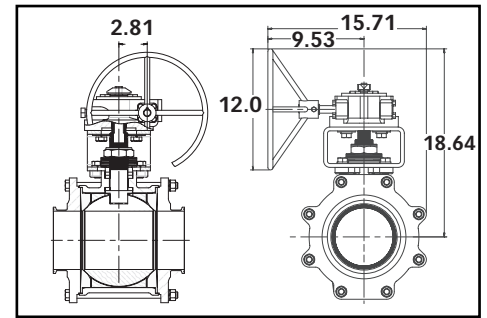
2-Way Valve with Locking Handle



2-Way Valve with Extended Locking Handle



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

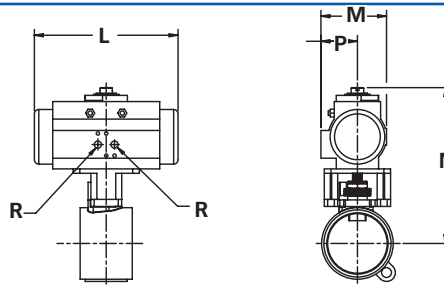


2-Way Sanitary Dimensioned valves in inches										Locking Handle		Ext. Locking Handle		
Valve Size	Size Code	I.D. Port	A	B	D	E	F	G	Approx. Wgt (lbs)	H	Hole Dia. for Lock	J	K	Hole Dia. for Lock
1/2"	C	0.37	3.50	5.50	0.75	2.05	4.00	1.50	1.1	1.55	.28	5.09	4.00	0.31
3/4"	D	0.62	4.00	6.00	0.85	2.23	4.00	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)

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