

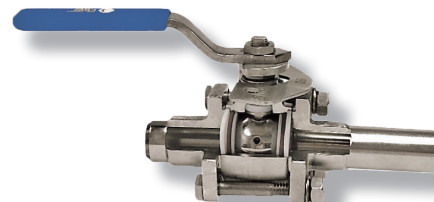
PBM IGENIX® CLEAN STEAM BALL VALVES

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!
- Valves are a three-piece "swing-out" body design.
- 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" (DN15 - DN150) Series 9, 1/2" - 4" (DN15 - DN150) Series 8
Material	Low ferrite cast and forged 316L material. Castings (Series 9) comply with A351, Alloy CF3M and/or A479, Alloy S31603. Forgings (Series 8) comply with A182, Alloy F316L/1.4404 and/or A479, Alloy S31603. Also available are 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 (62.1 barg) CWP depending on valve series, size and temperature
Temperatures	up to 450°F (232.2°C) depending on seat and seal material
Polish	Standard internal polish of 20 (.51) Ra ID Series 8, 30 (.76) Ra ID Series 9 (see table)

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.
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

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			-X	45° V-Ball			18	Extended Handle (2-1/2" thru 4")	F	20 Ra ID after Electro Polish
				J*	2-1/2"			2	TFM Seats / Seals / VTFE Cav Fill / EPR O-Rings	-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>

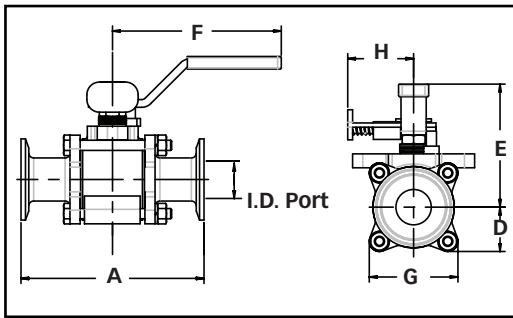
Other seat/seal options available - Contact PBM

Other operator options available - Contact PBM

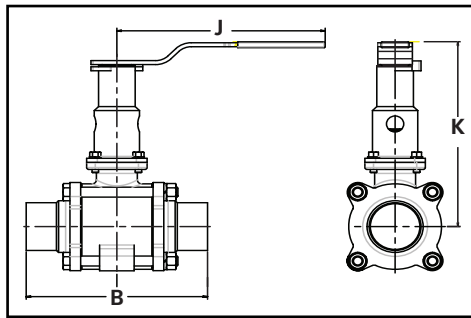
More polish available - Contact PBM

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

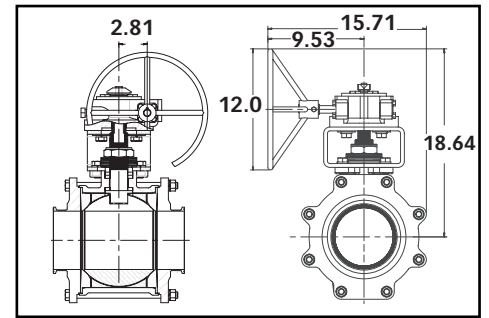
2-Way Valve with Locking Handle



2-Way Valve with Extended Locking Handle



2-Way Valve w/Gear Operator (6" (DN150) only)

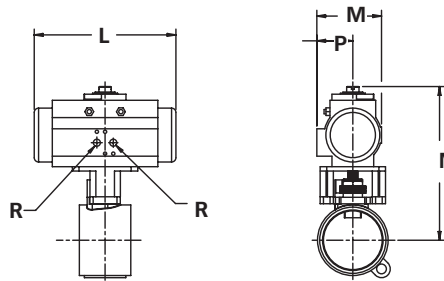


2-Way Sanitary Dimensioned valves in mm										Locking Handle		Ext. Locking Handle		
Valve Size	Size Code	I.D. Port	A	B	D	E	F	G	Approx. Wgt (kg)	H	Hole Dia. for Lock	J	K	Hole Dia. for Lock
DN 15	C	9.4	88.9	139.7	19.1	52.1	101.6	38.1	0.5	39.4	7.1	129.3	101.6	7.9
DN 20	D	15.7	101.6	152.4	21.6	56.6	101.6	42.7	0.6	39.4	7.1	129.3	105.2	7.9
DN 25	E	22.1	114.3	165.1	27.7	76.5	105.4	55.4	1.2	41.1	6.4	129.3	138.2	7.9
DN 40	G	34.8	139.7	190.5	42.7	127.5	223.8	84.1	4.0	65.3	9.7	203.2	189.5	9.7
DN 50	H	47.5	158.8	203.2	54.6	113.5	204.0	109.2	6.8	65.3	9.7	203.2	196.6	9.7
DN 65	J	60.2	203.2	292.1	70.9	165.4	306.3	141.7	16.3	88.1	9.7	307.3	288.5	9.7
DN 80	K	72.9	203.2	266.7	70.6	172.0	306.3	141.7	15.0	88.1	9.7	306.3	294.9	11.2
DN 100	L	97.5	254.0	330.2	93.0	191.3	306.3	186.2	30.4	88.1	9.7	306.3	314.5	11.2
DN 150	M	146.8	330.2	431.8	157.0	NA	NA	314.2	74.4	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"	141.0	71.1	138.4	40.9	1/8 NPT	141.0	80.5	149.9	45.0	1/8 NPT	141.0	71.1	138.4	40.9	1/8 NPT
3/4"	141.0	71.1	142.0	40.9	1/8 NPT	164.1	80.5	153.4	45.0	1/8 NPT	141.0	71.1	142.0	40.9	1/8 NPT
1"	164.1	80.5	165.4	45.0	1/8 NPT	210.1	94.5	183.4	52.6	1/8 NPT	141.0	71.1	153.9	40.9	1/8 NPT
1-1/2"	240.5	105.9	245.1	58.4	1/8 NPT	275.1	122.9	245.1	68.1	1/4 NPT	210.1	94.5	231.1	52.6	1/8 NPT
2"	275.1	122.9	265.4	68.1	1/4 NPT	333.0	136.9	299.7	72.9	1/4 NPT	210.1	94.5	238.5	52.6	1/8 NPT
2-1/2"	333.0	136.9	342.4	72.9	1/4 NPT	372.1	148.1	354.6	80.0	1/4 NPT	333.0	136.9	342.4	72.9	1/4 NPT
3"	372.1	148.1	360.9	80.0	1/4 NPT	435.1	164.1	383.5	87.4	1/4 NPT	333.0	136.9	348.7	72.9	1/4 NPT
4"	435.1	164.1	402.8	87.4	1/4 NPT	500.1	185.9	426.7	99.1	1/4 NPT	333.0	136.9	368.6	72.9	1/4 NPT
6"	578.6	216.9	584.7	109.0	1/4 NPT	575.1	290.1	705.6	145.0	1/4 NPT	578.6	216.9	584.7	109.0	1/4 NPT

Tube OD	Manual Valves with Tube Ends when used with insulation	
	Insulation max with no extension	Insulation max with extension
12.7	19.3	68.1
19.1	20.1	69.1
25.4	36.8	98.6
38.1	78.7	141.5
50.8	58.7	142.2
63.5	101.6	225.6
76.2	103.6	225.6
101.6	110.5	231.6



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

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

www.PBMValve.com

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