



SANITARY CHECK VALVES



U.S. Patent
Pending

SANITARY CHECK VALVES USE NO INTERNAL SPRINGS

PBM sanitary check valves are specifically designed for use in biotech and pharmaceutical applications. The valves feature a spring-less design which eliminates the concern of media entrapment and particulate generation associated with spring-loaded designs.

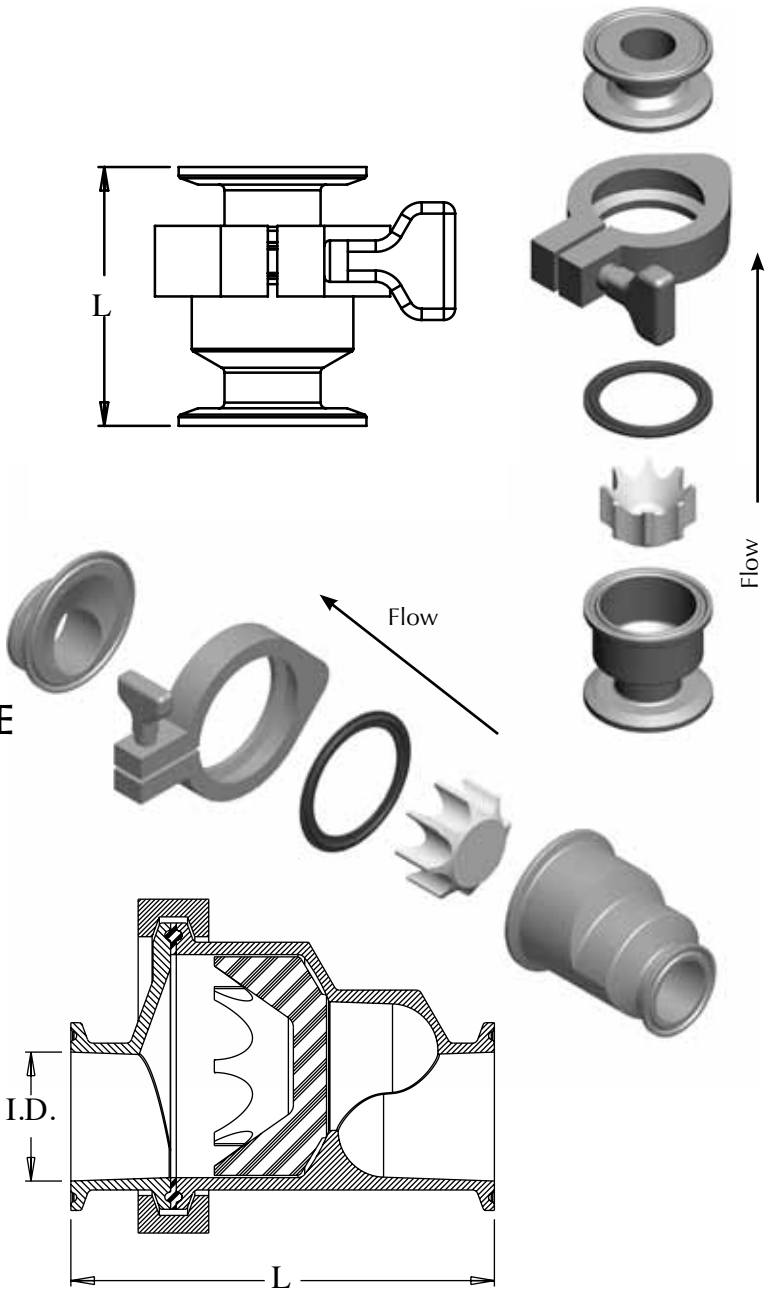
- 1/2" through to 4" vertical and horizontal design, larger sizes available
- Available in 316L, Hastelloy®, AL6XN® and other materials available
- Body interior is polished to 20 Ra or better
- Sanitary clamp ends; extended sanitary tube weld ends upon request
- Innovative poppet design eliminates the use of a spring and guide
- No cracks, crevices, or other localized depressions which could otherwise trap fluid.
- Sanitary clamp body/end connection
- Applicable for liquid and low pressure steam service
- Elastomer materials are FDA compliant, USP Class VI

SANITARY CHECK VALVES

VERTICAL CHECK VALVE

Valve Size	ID	OD (Buttweld Ends)	L	
			X- Clamp	F- Weld
1/2"	0.37	0.50	2.25	5.25
3/4"	0.62	0.75	2.50	5.50
1"	0.87	1.00	2.75	5.75
1-1/2"	1.37	1.50	3.50	6.50
2"	1.87	2.00	4.00	7.00
3"	2.87	3.00	6.50	10.00
4"	3.83	4.00	7.50	11.50

Note: All tube end valves have tangent length on each end per ASME BPE-2009.



HORIZONTAL CHECK VALVE

Valve Size	ID	OD (Buttweld Ends)	L	
			X- Clamp	F- Weld
1/2"	0.37	0.50	2.75	5.75
3/4"	0.62	0.75	3.50	6.50
1"	0.87	1.00	3.50	6.50
1-1/2"	1.37	1.50	4.50	7.50
2"	1.87	2.00	5.50	8.50
3"	2.87	3.00	9.50	13.00
4"	3.83	4.00	11.00	15.00

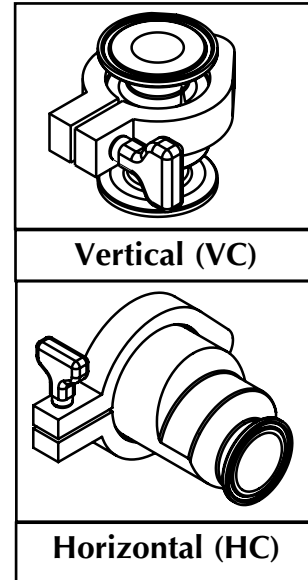
Note: All tube end valves have tangent length on each end per ASME BPE-2009.

SANITARY CHECK VALVES

Cold Working Pressure CWP = Full vacuum to 235 psig
 Temperature Range = -10°F to +300°F
 Crack Pressure = 0.1 psig
 Applications: Liquid, Low pressure steam

Cv (gpm)

Size	Vertical Check (VC)	Horizontal Check (HC)
1/2"	2.3	2.3
3/4"	6.2	6.2
1"	13	13
1-1/2"	29	29
2"	51	51
3"	CF	CF
4"	CF	CF



Materials of Construction

Component	Material	Specification
Body (VC & HC)	316L Stainless steel	Bar Stock: A479, S31603
	Hastelloy® C-276	Bar Stock: B574, N10276
	AL6XN®	Bar Stock: B691, N08367
	Hastelloy® C-22®	Bar Stock: B574, N06022
Poppet	PTFE	Virgin PTFE, USP Class VI
Body Clamp gasket	Viton	USP Class VI
Body Clamp	304 Stainless Steel	CF8 or F304

Testing: Maximum Allowable Leakage Rates

Size	PTFE Poppet
1/2", 3/4", 1"	5 drops/min @ 3 psi
1-1/2"	8 drops/min @ 3 psi
2"	10 drops/min @ 3 psi
3"	15 drops/min @ 3 psi
4"	20 drops/min @ 3 psi

Standard Surface Finish*

Component	ID Finish	OD Finish	Type
Body, Bonnet	20 Ra max	63 Ra max	Standard finish, Mechanical
PTFE poppet	-	20 Ra max	Standard finish, Mechanical

*Optional finer finishes and electropolish available



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Specification

PBM Sanitary Check Valve, Vertical installation Model VC / Horizontal Installation Model HC, Body and end shall be constructed of bar stock material 316L stainless, Hastelloy® C-276 or C-22®, AL6XN®, or other materials with all internal surfaces 20 Ra or better. Check valve shall use no internal springs or guides. Poppet shall be constructed of PTFE. Vertical and horizontal valves shall be of split body design using sanitary clamp and USP Class VI gasket. All materials shall be FDA compliant. Elastomers shall be USP Class VI. End connections shall be specified as sanitary clamp or extended butt weld for US gauge tubing. Extended butt weld in 316L material has 0.005 to 0.017% sulfur control. Valve body shall include marking designating direction of flow.
 Vertical Installation: PBM Model VC (material) (size) (end connections) (poppet material) (polish)
 Horizontal Installation: PBM Model HC (material) (size) (end connections) (poppet material) (polish)

Ordering Codes for PBM Sanitary (Springless) Check Valves

*Other options available upon request.

Product Style		Materials of Construction*		Line Size*		Connection Type*		Poppet/Body Seal*		Polish Options*	
VC	Vertical Check Valve	HL	316L S/S (Standard)	C	1/2"	X-	Hygenic Clamp	T	PTFE / EPDM	A	20 Ra ID / 63 Ra OD (standard)
		C-	Hastelloy® C-276	D	3/4"	F-				Extended tube stub for weld	S
HC	Horizontal Check Valve	P-	AL6XN®	E	1"						
		Y-	Hastelloy® C-22®	G	1-1/2"					F	20 Ra ID / 63 Ra OD + EP
				H	2"					H	10 Ra OD 63 Ra OD + EP
				K	3"					L	20 Ra ID / 32 Ra OD + EP
				L	4"					N	10 Ra ID / 32 Ra OD
									S	10 Ra ID / 32 Ra OD + EP	



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