spirax sarco®

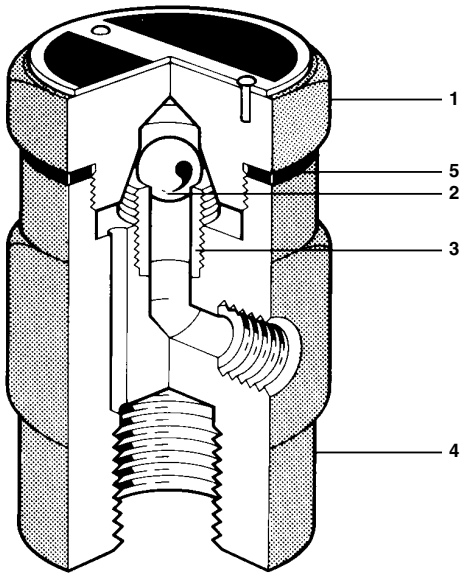
Vacuum Breaker
VB14, VB21

The VB14 and VB21 are designed to admit air to condensing vapor (steam) or liquid systems where vacuum formation may inhibit system drainage or operation.

Model ➪	VB14	VB21
Sizes	1/2" x 1/8"	
Connections	NPT	
Construction	Brass Body	Stainless Steel Body
	Stainless Steel Valve	
Options	BSP Connections	

Typical Applications

Used on steam inlet to air coils, heat exchangers, sparge systems, jacketed kettles, boiler feed water tanks, chilled water lines and liquid process lines, all of which at one time or another generate vacuum conditions which must be releived to allow proper system operation.



Construction Materials

No.	Part	Material	
1	Cap	VB14 Brass	CU ZN 39 PB2
		VB21 Stainless Steel	Type 303
2	Valve Check Ball	VB14 Stainless Steel	Z 100 CD 17
		VB21 Stainless Steel	Type 440C
3	Valve Seat	VB14 Stainless Steel	Z10 CN 18 08
		VB21 Stainless Steel	Type 303
4	Body	VB14 Brass	CU ZN 39 PB2
		VB21 Stainless Steel	Type 303
5	Gasket	VB14 Nickel Reinforced Exfoliated Graphite	
		VB21 Stainless Steel	Type 304

Limiting Operating Conditions

Max. Operating Pressure (PMO) VB14: 210 psig (*14 barg)*
VB21: 304 psig (*21 barg)*

Max. Operating Temperature VB14: 500˚F *(260˚C*)
VB21: 752˚F *(400˚C*)

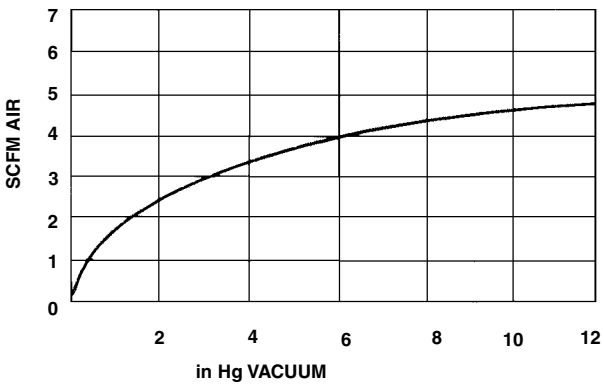
Pressure Shell Design Conditions

PMA Max. allowable pressure	VB14:	232 psig/0-500˚F	*16 barg/0-260˚C*
	VB21:	304 psig/0-752˚F	*21 barg/0-400˚C*
TMA Max. allowable temperature	VB14:	500˚F/0-232 psig	*260˚C/0-14 barg*
	VB21:	752˚F/0-304 psig	*400˚C/0-21 barg*

Operating Characteristics

Maximum Cv – 0.625.
Vacuum required to open – 2 in H_2O (0.15 in Hg)

AIR HANDLING CAPACITIES



Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only.
In the interests of development and improvement of the product, we reserve the right to change the specification.

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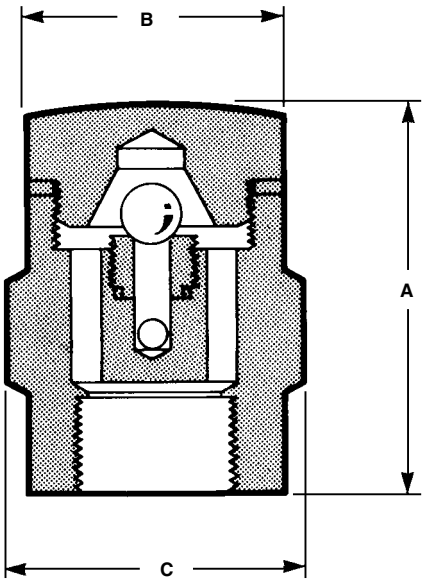

Dimensions (nominal) in inches and millimeters

Size		A	B	C	Weight
1/2"	**VB14**	**2.2**	**1.3**	**1.5**	**0.77 lb**
		55	*34*	*39*	*0.35 kg*
1/2"	**VB21**	**2.0**	**1.3**	**1.5**	**0.73 lb**
		52	*34*	*39*	*0.33 kg*

Sample Specification

Vacuum Breakers shall be used on all modulating or on/off heat exchangers and coils, except in vacuum return systems. They shall be installed in the supply side between the control valve and equipment and be of hardened ball check valve design with all working parts manufactured from stainless steel. Bodies shall be made from either brass or stainless steel depending on the application, and shall be suitable for operating conditions of 210 psig (or 304 psig) saturated steam.

Installation

Always install in a vertical position with cap at the top. Generally the device should be mounted on the highest point of the circuit. Large coils or equipment may require more than one vacuum breaker to be fitted. An isolating valve should be fitted to facilitate servicing.

Maintenance

After the vacuum breaker is isolated from system pressure, the cap can be unthreaded to examine the valve and valve seat areas for debris which can become trapped and cause breakage of system pressure during normal operation. The vacuum breaker is not repairable.

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