

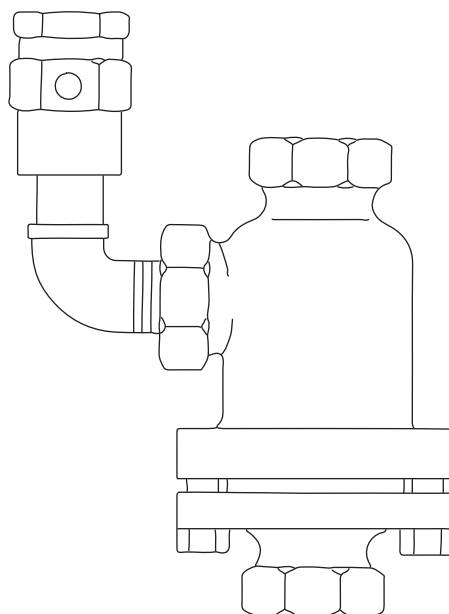


Combination Vacuum Breaker/Balanced Pressure Thermostatic Air Vent VB-VS

Description

The VB-VS Vacuum Breaker/Air Vent is designed for use on steam systems to remove air and other non-condensable gases, which may impair heat transfer during start-up and normal operation, and admit air when system drops in vacuum.

Model	VB-VS
PMO	200 psi g (14 bar g)
Sizes	½"
Connections	NPT
Construction	Cast Iron Body with Stainless Steel Internals Brass VB-14



Typical applications

For installation at end of all steam mains and headers, on all steam equipment such as air coils, heat exchangers, autoclaves, sterilizers, platen presses, rotating cylinders, jacketed kettles, laundry equipment and reboilers.

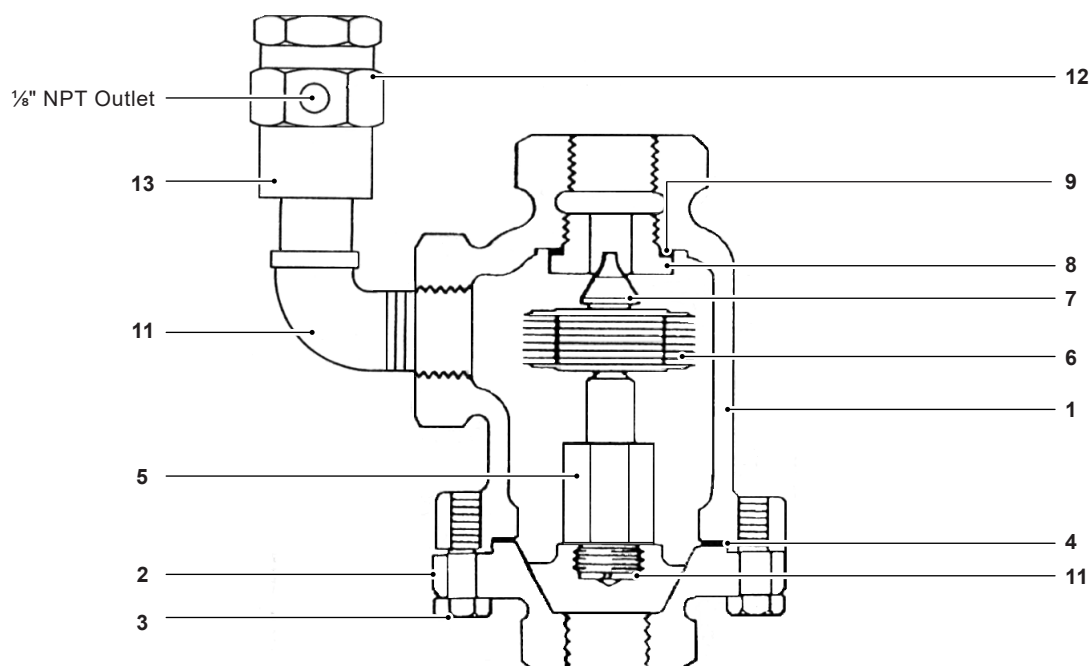
Limiting operation conditions

Maximum Operating Pressure (PMO)	200 psi g	(14 bar g)
Maximum. Operating Temperature	Saturated Steam	

Pressure shell design conditions

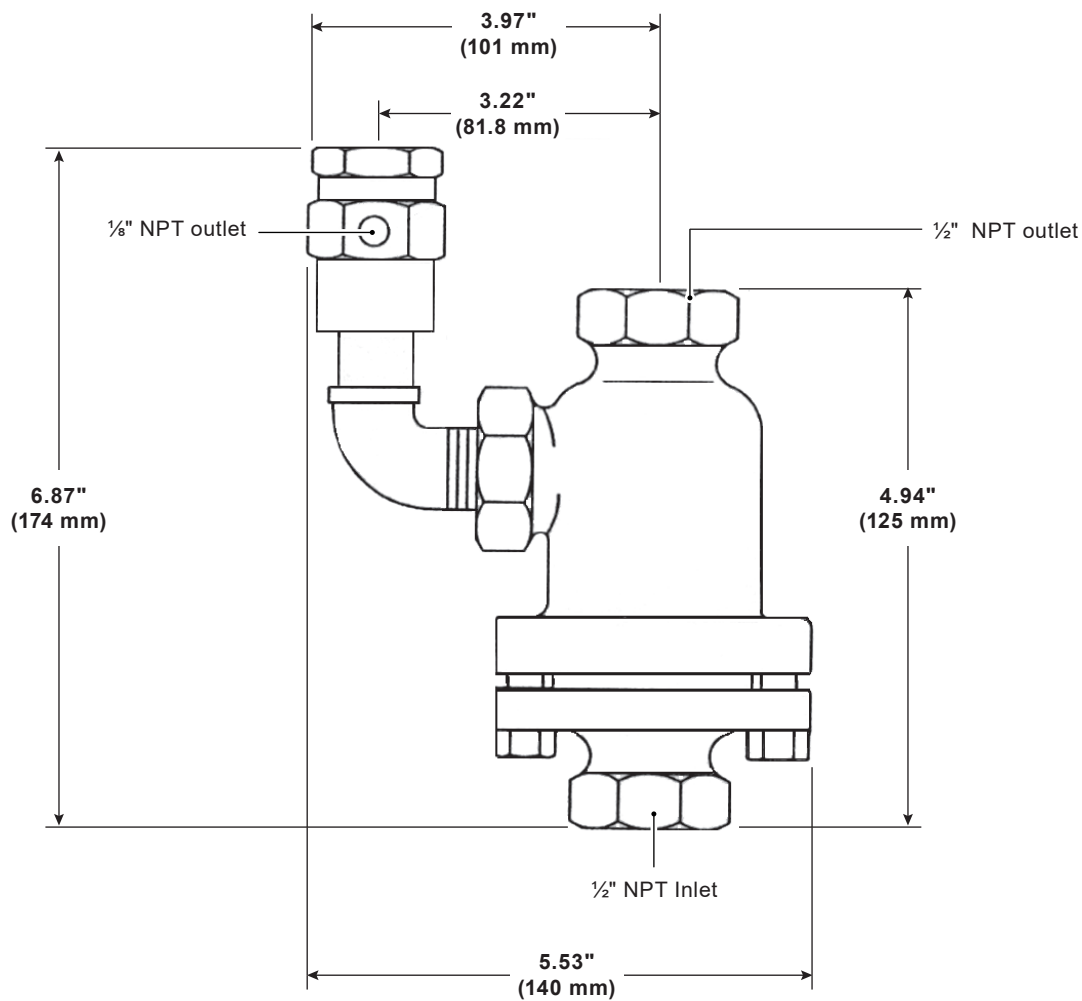
PMA	Maximum allowable pressure	200 psi g @ up to 450 °F	(14 bar g @ up to 232 °C)
TMA	Maximum allowable temperature	450 °F @ up to 200 psi g	(232 °C @ up to 14 bar g)

Materials



No.	Part	Material	
1	Body	Cast Iron	ASTM A126 CL B
2	Cap	Cast Iron	ASTM A126 CL B
3	Cap Screws	Steel	ASTM A 449
4	Cap Gasket	Stainless Steel clad,non-asbestos fill	AISI 304
5	Element Holder	Stainless Steel	AISI 300
6	Bellows	Stainless Steel	AISI 300 & 400 series
7	Valve Head	Stainless Steel	AISI 303
8	Valve Seat	Stainless Steel	AISI 303
9	Valve Seat Gasket	Stainless Steel clad,non-asbestos fill	AISI 304
10	Lockwasher	Stainless Steel	AISI 304
11	Elbow	Cast Iron	
12	Nipple	Steel	
13	VB-14	See TIS 4.103 for material data	

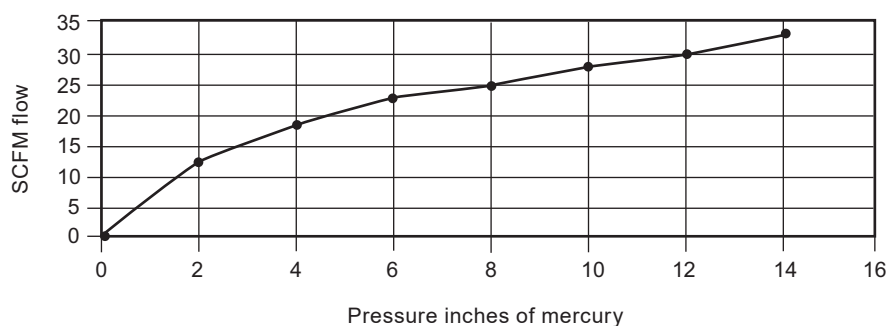
Dimensions/weights (approximate) in inches (mm)



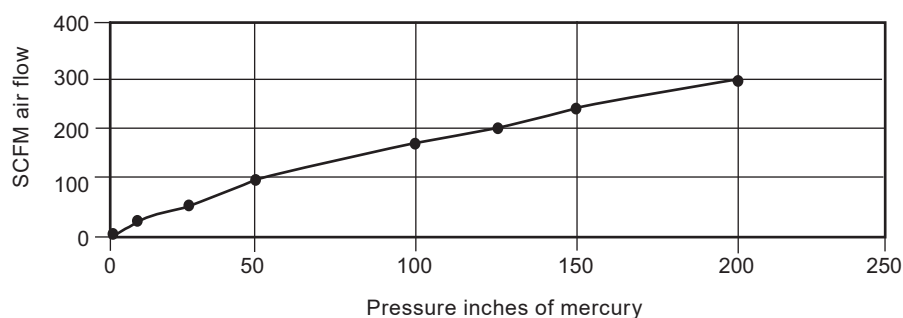
Air Capacity (discharge to atmosphere)

SCFM cubic feet per minute at standard conditions of 14.7 psi a (1.01 bar a) at 60 °F (16 °C).
For dm³/s multiply by .4719

VB-VS Vacuum Breaker/Air Vent In-Flow In Vacuum



VB-VS Vacuum Breaker/Air Vent Out-Flow



Installation

The VB-VS should be positioned at the high point of the piping system or equipment or where air collects and vacuum needs to be broken. The VB-VS must be piped in a vertical position so only air and steam surround the thermostatic bellows and vacuum breaker. The discharge can be hot and wet. The outlet should be piped to a safe place. An isolation valve should be placed on the inlet side of the VB-VS.

Maintenance

This product can be maintained without disturbing the inlet piping connections. Complete isolation is required before any servicing is performed. The vent must be cooled down to prevent over-expansion of the thermostat and oil prevent steam from escaping from the unit which could burn the operator.

The VB-VS should be disassembled periodically for inspection and cleaning of the valve head and seat. Worn or damaged parts should be replaced.

Complete Installation and Maintenance Instructions are given in IM-4-107.

Spare parts

Cap Gasket	A
VB-14	B
Element Set	C, D, E, F

Note

See VS-204 for Cap Gasket and Element Set in Spares book.

