

# Vacuum breakers

for steam systems

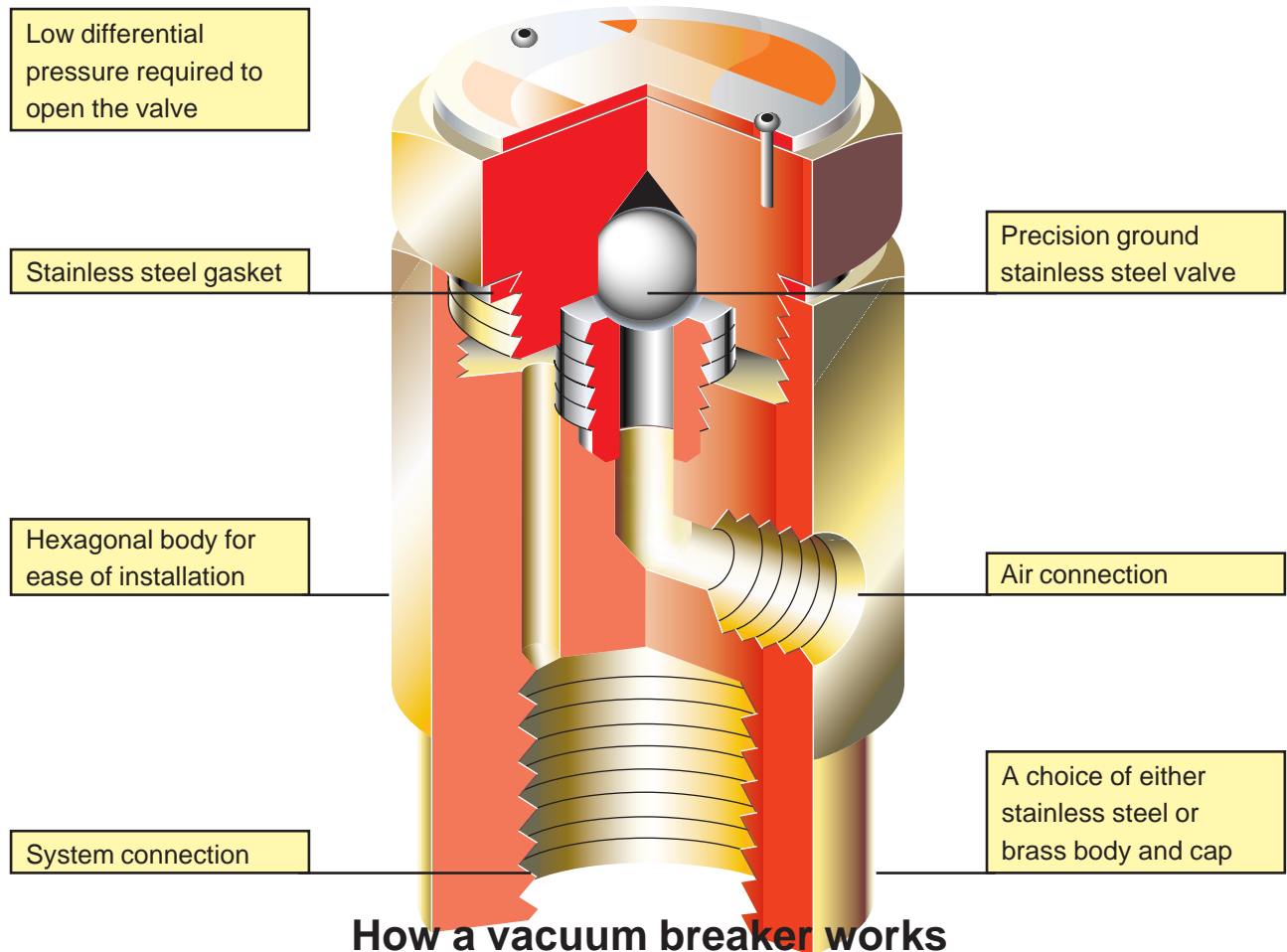


**spirax**  
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# Vacuum breakers

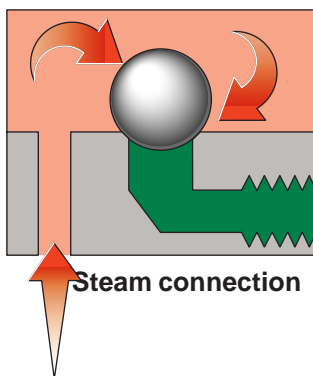
## protecting equipment from vacuum damage

The Spirax Sarco vacuum breaker range will protect your plant and process equipment against vacuum, and at the same time allow condensate to drain effectively from pipework and storage vessels.



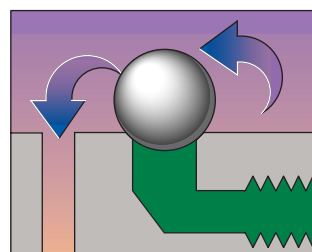
### How a vacuum breaker works

#### Normal operation



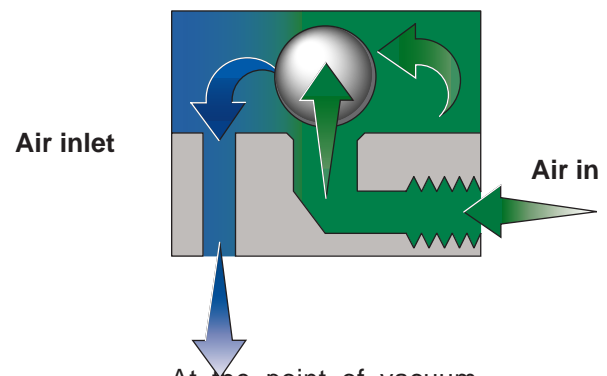
The precision ground stainless steel valve is held firmly on its seat during normal operating conditions ensuring a tight shut-off.

#### Cooling



During cooling, steam begins to condense resulting in a reduction of pressure. The valve remains on its upper seat until the pressure in the upper chamber falls below the air inlet pressure.

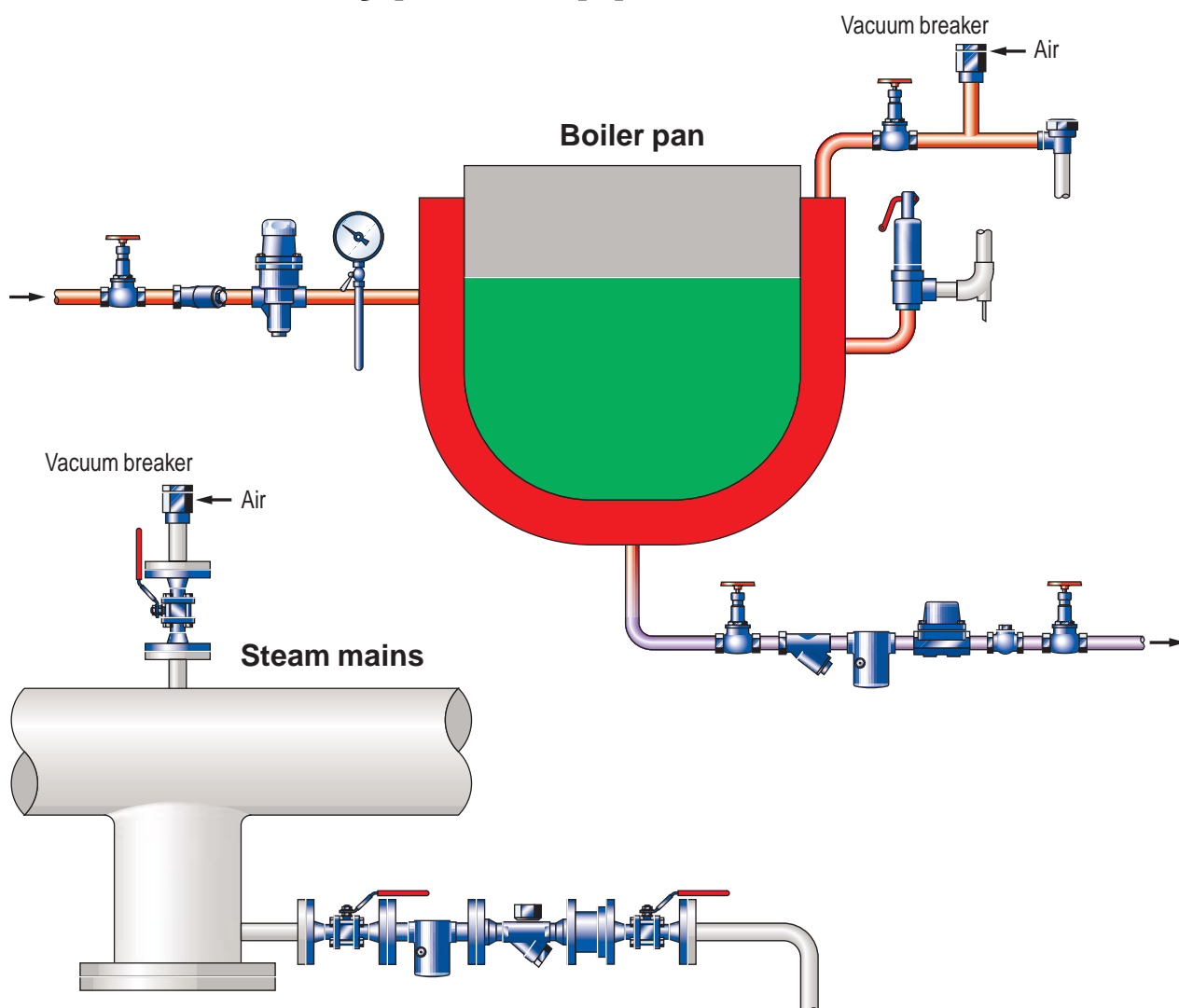
#### At point of vacuum



At the point of vacuum, the valve will instantly lift off its seat. The air is then drawn in through the upper chamber preventing a vacuum being formed.

		VB14 Brass		VB21 Austenitic stainless steel	
Size and pipe connections		System connection	½" screwed BSP or NPT	System connection	½" screwed BSP or NPT
		Air connection	⅛" screwed BSP or NPT	Air connection	⅛" screwed BSP or NPT
Materials	Body	Brass	Cu Zn 39 Pb 2	Austenitic stainless steel	AISI 303
	Cap	Brass	Cu Zn 39 Pb 2	Austenitic stainless steel	AISI 303
	Gasket	Stainless steel	BS 1449 304	Stainless steel	BS 1449 304
	Valve	Stainless steel	Z100 CD 17	Stainless steel	AISI 440C
	Valve seat	Stainless steel	Z15 CN 16 02		

## Typical applications



### Applications

These robust reliable products have been used on numerous system applications preventing vacuums in equipment such as:

- Heat exchangers
- Boilers
- Sterilizing chambers
- Storage vessels
- Jacketed pans
- Steam mains

### User benefits

- Protects valuable equipment from vacuum damage.
- Allows effective drainage from the system.
- Simple, reliable and robust design.
- Spirax Sarco's guarantee of worldwide technical support, knowledge and service.

# VB14

screwed brass

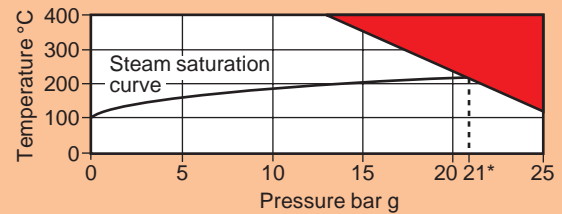
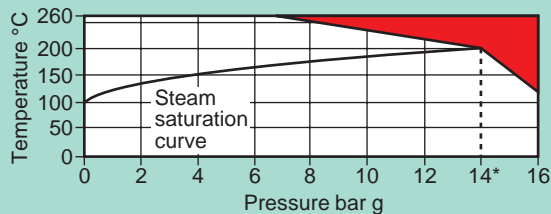


# VB21

screwed austenitic stainless steel



## Operating range

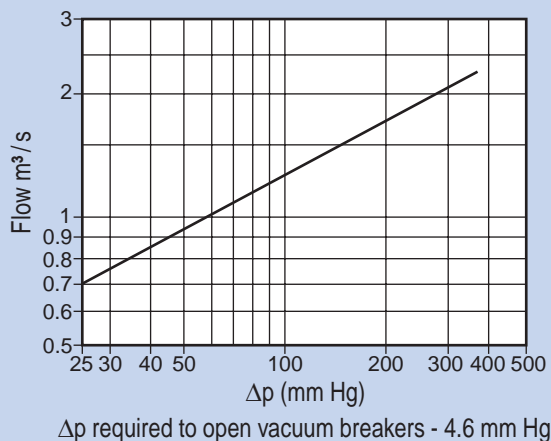


\*PMO - Maximum operating pressure recommended when used for saturated steam.  
The product must not be used in the red area.

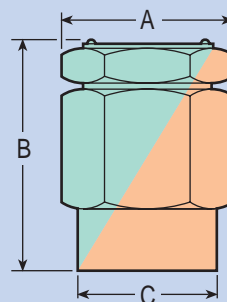
## Limiting conditions

Body design conditions PN16	Body design conditions PN25
Maximum allowable pressure 16 bar g	Maximum allowable pressure 25 bar g
Maximum allowable temperature 260°C	Maximum allowable temperature 400°C
Cold hydraulic test pressure 24 bar g	Cold hydraulic test pressure 38 bar g

## Capacities VB14 and VB21



## Dimensions (approximate) in mm



	VB14	VB21
A (A/F)	55.0	51.0
B	34.0	36.0
C	33.7	-
K <sub>v</sub>	0.52	0.52
Weight (kg)	0.35	0.33