## VB14 and VB21
### Vacuum Breakers

#### VB14

**Description**
The VB14 is a small purpose designed vacuum breaker for general purpose applications on condensing vapour (steam) or liquid systems.

**Standards**
This product fully complies with the requirements of the European Pressure Equipment Directive (PED).

**Certification**
This product is available with a manufacturer’s Typical Test Report. **Note:** All certification/inspection requirements must be stated at the time of order placement.

**Sizes and pipe connections**
- ½" (system connection) screwed BSP or NPT.
- ¼" (air inlet connection) screwed BSP or NPT.

#### VB21

**Description**
The VB21 is a small purpose designed vacuum breaker for general purpose applications on condensing vapour (steam) or liquid systems.

**Standards**
This product fully complies with the requirements of the European Pressure Equipment Directive (PED).

**Certification**
This product is available with a manufacturer’s Typical Test Report. **Note:** All certification/inspection requirements must be stated at the time of order placement.

**Sizes and pipe connections**
- ½" (system connection) screwed BSP or NPT.
- ¼" (air inlet connection) screwed BSP or NPT.
VB14 and VB21 Vacuum Breakers

### VB14

**Pressure/temperature limits**

![Graph showing pressure/temperature limits for VB14]

- **Temperature:** °C
- **Pressure:** bar g

**Body design conditions**

- **PN16**
- **PMA**: Maximum allowable pressure 16 bar g @ 180 °C
- **TMA**: Maximum allowable temperature 260 °C @ 7 bar g
- **Minimum allowable temperature**: -196 °C

**PMO**: Maximum operating pressure for saturated steam service 14 bar g

**TMO**: Maximum operating temperature 260 °C @ 7 bar g

**Minimum operating temperature**: 0 °C

**Note:** For lower operating temperatures consult Spirax Sarco

**Designed for a maximum cold hydraulic test pressure of 24 bar g**

**Materials**

<table>
<thead>
<tr>
<th>No.</th>
<th>Part</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cap</td>
<td>Brass Cu Zn 39 Pb3</td>
</tr>
<tr>
<td>2</td>
<td>Valve</td>
<td>Stainless steel Z100 CD 17</td>
</tr>
<tr>
<td>3</td>
<td>Valve seat</td>
<td>Stainless steel Z15 CN 16 02</td>
</tr>
<tr>
<td>4</td>
<td>Body</td>
<td>Brass Cu Zn 39 Pb3</td>
</tr>
<tr>
<td>5</td>
<td>Gasket</td>
<td>Stainless steel AISI 304</td>
</tr>
</tbody>
</table>

### VB21

**Pressure/temperature limits**

![Graph showing pressure/temperature limits for VB21]

- **Temperature:** °C
- **Pressure:** bar g

**Body design conditions**

- **PN25**
- **PMA**: Maximum allowable pressure 25 bar g @ 120 °C
- **TMA**: Maximum allowable temperature 400 °C @ 13 bar g
- **Minimum allowable temperature**: -48 °C

**PMO**: Maximum operating pressure for saturated steam service 21 bar g

**TMO**: Maximum operating temperature 400 °C @ 13 bar g

**Minimum operating temperature**: 0 °C

**Note:** For lower operating temperatures consult Spirax Sarco

**Designed for a maximum cold hydraulic test pressure of 38 bar g**

**Materials**

<table>
<thead>
<tr>
<th>No.</th>
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<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cap</td>
<td>Stainless steel AISI 303</td>
</tr>
<tr>
<td>2</td>
<td>Valve</td>
<td>Stainless steel AISI 440 C</td>
</tr>
<tr>
<td>4</td>
<td>Body</td>
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</tr>
<tr>
<td>5</td>
<td>Gasket</td>
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</tr>
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## VB14 and VB21 Vacuum Breakers

### VB14

#### Capacity

\[ \Delta p \text{ required to open vacuum breaker} = 4.6 \text{ mm Hg} \]

<table>
<thead>
<tr>
<th>Flow dm³/s</th>
<th>( \Delta p ) (mm Hg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>25 30 40 50 60 70 80 90 100</td>
</tr>
</tbody>
</table>

#### Dimensions/weight (approximate) in mm and kg

<table>
<thead>
<tr>
<th>Size</th>
<th>A (A/F)</th>
<th>B (A/F)</th>
<th>C</th>
<th>Kᵣ</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>55</td>
<td>34</td>
<td>34</td>
<td>0.52</td>
<td>0.35</td>
</tr>
</tbody>
</table>

#### Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P019-05) supplied with the product.

**Installation note:**

The VB14 vacuum breaker must be installed in a vertical position with the system connection at the bottom. On steam systems, the vacuum breaker should be installed at the highest point in the system where it will not be flooded with condensate.

**How to order**

**Example:** 1 off Spirax Sarco VB14 vacuum breaker having 1/4" screwed BSP connections.

### VB21

#### Capacity

\[ \Delta p \text{ required to open vacuum breaker} = 4.6 \text{ mm Hg} \]

<table>
<thead>
<tr>
<th>Flow dm³/s</th>
<th>( \Delta p ) (mm Hg)</th>
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<tr>
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<th>Kᵣ</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>52</td>
<td>36</td>
<td>36</td>
<td>0.52</td>
<td>0.33</td>
</tr>
</tbody>
</table>

#### Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P019-05) supplied with the product.

**Installation note:**

The VB21 vacuum breaker must be installed in a vertical position with the system connection at the bottom. On steam systems, the vacuum breaker should be installed at the highest point in the system where it will not be flooded with condensate.

**How to order**

**Example:** 1 off Spirax Sarco VB21 vacuum breaker having 1/4" screwed BSP connections.