The SV/E-1-0 type PROTEGO® valve is a highly developed vacuum relief valve with excellent flow performance. It is primarily used as a safety device for relieving vacuum in tanks, containers, and process engineering equipment. The valve offers reliable protection against vacuum and prevents in-breathing of air close to the set pressure. The device will start to open as soon as the set pressure is reached and only requires 10% overpressure to reach full lift. Continuous investments in and a commitment to research and development have allowed PROTEGO® to develop a low pressure valve which has the same opening characteristics as a high pressure safety relief valve.

This “full lift type” technology allows the valve to be set at just 10% below the maximum allowable working pressure of the tank and still safely vent the required mass flow. Due to our highly developed manufacturing technology, the tank pressure is maintained up to set pressure with a tightness that is far superior to the conventional standard. This feature is achieved by valve seats made of high quality stainless steel and with precisely lapped valve pallets (1) or with an air cushion seal (2) in conjunction with high quality FEP diaphragm. The valve pallets are also available with a PTFE seal to prevent the valve pallets from sticking when sticky products are used, and they enable the use of corrosive substances. After the vacuum is released, the valve re-seats and provides a tight seal again.

**Special Features and Advantages**
- 10% technology for minimum pressure increase up to full lift
- extreme tightness, resulting in lowest possible product losses and reduced environmental pollution
- set pressure close to opening pressure for optimum pressure maintenance in the system
- high flow capacity
- valve pallet is guided inside the housing to protect against harsh weather conditions
- can be used in explosion hazardous areas
- automatic condensate drain
- best technology for API tanks

**Design Types and Specifications**
The valve pallet is weight-loaded. Higher vacuum with a special spring-loaded design available upon request. There are two different designs:

- Vacuum valve in basic design
- Vacuum valve with heating jacket

Additional special devices available upon request.

### Table 1: Dimensions

<table>
<thead>
<tr>
<th>DN</th>
<th>50 / 2&quot;</th>
<th>80 / 3&quot;</th>
<th>100 / 4&quot;</th>
<th>150 / 6&quot;</th>
<th>200 / 8&quot;</th>
<th>250 / 10&quot;</th>
<th>300 / 12&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>140 / 5.51</td>
<td>170 / 6.69</td>
<td>190 / 7.48</td>
<td>230 / 9.06</td>
<td>300 / 11.81</td>
<td>325 / 12.80</td>
<td>425 / 16.73</td>
</tr>
<tr>
<td>b</td>
<td>75 / 2.95</td>
<td>85 / 3.35</td>
<td>95 / 3.74</td>
<td>120 / 4.72</td>
<td>140 / 5.51</td>
<td>165 / 6.50</td>
<td>205 / 8.07</td>
</tr>
<tr>
<td>c</td>
<td>205 / 8.07</td>
<td>205 / 8.07</td>
<td>285 / 11.22</td>
<td>360 / 14.17</td>
<td>405 / 15.94</td>
<td>460 / 18.11</td>
<td>500 / 19.69</td>
</tr>
</tbody>
</table>

Dimensions for vacuum relief valve with heating jacket upon request.
The flow capacity charts have been determined with a calibrated and TÜV certified flow capacity test rig. Volume flow \( V \) in \( \text{m}^3/\text{h} \) and CFH refer to the standard reference conditions of air in ISO 6358 (20°C, 1bar). For conversion to other densities and temperatures, refer to Sec. 1: “Technical Fundamentals.”