Pressure Surge Damper,
Type RK-F10
Pressure Surge Damper, Type RK-F10

Preliminary notes

Pressure surge dampers shall protect rooms, facilities and ductwork against pressure blasts. Such pressure waves could be produced by chemical reactions, gas-explosions or mechanical damages at pressure vessels. They can reach in about 100 milliseconds a positive pressure of approx. 0.45 bar and their duration will take about 1 s. (see graphic).

Air flow and pressure loss

Installation situation

Application

In case of a requirement that single duct legs or wall openings has to be open in normal operation and to be closed in a pressure wave resp. a pressure increasing situation, Krantz recommend to use of their pressure surge damper, type RK-F10.

According to the closing pressure an initial tension will be adjusted at an installed spring system. This initial tension ensures an open position of the damper regarding wind blasts and variation of pressure inside the duct system. In open position and case of installation outside of outer walls the damper also fulfills the functions of a rain protection grille.
Dimensions and weights

![Dimensions Diagram]

<table>
<thead>
<tr>
<th>Nominal width W</th>
<th>200</th>
<th>224</th>
<th>250</th>
<th>280</th>
<th>315</th>
<th>355</th>
<th>400</th>
<th>450</th>
<th>500</th>
<th>560</th>
<th>630</th>
<th>710</th>
<th>800</th>
<th>900</th>
<th>1000</th>
<th>1200</th>
<th>1250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal height H</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>500</td>
<td>560</td>
<td>630</td>
<td>710</td>
<td>800</td>
<td>900</td>
<td>1000</td>
<td>1200</td>
<td>1250</td>
</tr>
<tr>
<td>W1</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>315</td>
<td>355</td>
<td>400</td>
<td>450</td>
<td>500</td>
<td>560</td>
</tr>
<tr>
<td>No. of damper blades</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>11</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>13</td>
</tr>
</tbody>
</table>

All combinations of W and H dimensions are possible. All dimensions in mm. The companion flanges are not drilled on delivery.
Pressure Surge Damper, Type RK-F10

For protection of rooms, equipments and air ducts against shock waves.

The pressure wave can reach in about 100 milliseconds a positive pressure of approx. 0.45 bar and their duration will take about 1 s.

Pressure surge damper of sturdy design, dimensioned for shock waves up to 0.5 bar. The function remains unreduced after a shock wave.

The requested closing pressure can be set at a spring pull. The initial tension of the spring pull is to be selected thus that the blades are always open during normal operation as well as in case of high wind pressures or duct pressure fluctuations.

During normal operation the pressure surge damper is open. In open condition the pressure surge damper corresponds with regard to appearance and functioning to a weather and rain protection equipment.

In the event of a shock wave the pressure surge damper closes suddenly. At pressure drop the blades automatically jump back into the position „open“.

The pressure surge damper requires no accessory energy.

Design:

• Damper housing with connection frame on both sides
• Built-in inclined blades with axis and bearings
• Damper rods on both sides with spring tensioning appliance
• Housing, blades and damper rods made of special steel 1.4571
## Technical data

<table>
<thead>
<tr>
<th>Fabrikate:</th>
<th>Krantz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type:</td>
<td>RK-F10</td>
</tr>
<tr>
<td>Pressure blast</td>
<td>0.45 bar</td>
</tr>
<tr>
<td>Admissible working temperature:</td>
<td>100 °C</td>
</tr>
<tr>
<td>Dimensions W/H:</td>
<td>see table</td>
</tr>
</tbody>
</table>