Sand Trap Louvre

Types WSL and AWSL
for Building Façades

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Description

The sand trap louvre is used as pre-filter for the protection of air conditioning plants in areas exposed to extreme levels of industrial pollution. It has a degree of separation of sand and large dust particles, even in cases of high dust concentrations. The vertically arranged sections and holes for sand drainage ensure the sand trap louvre is self cleaning and maintenance-free. The sand trap louvre is designed to separate large particles at low air velocities, thus avoiding excessive dust loading on conventional plant filters. It is not intended as a substitute for conventional supply air filtration plant.

Materials

Basic construction either aluminium (AWSL) or galvanised steel (WSL). Bird screen galvanized steel mesh 12 x 12 x 1 mm. Standard finish AWSL mill, WSL galvanized or powder coated RAL RAL 9010 25% gloss, other RAL colours and of gloss finish on request. For all external application AWSL powder coat finish to BS EN 12206-1;2004, WSL powder coat finish to BS EN 13438:2005.

Louvre Fixing

Louvre rear section to be site drilled for fixings supplied by others.
Dimensions

Standard Sizes · Single Section

<table>
<thead>
<tr>
<th>Width B in mm</th>
<th>150</th>
<th>300</th>
<th>450</th>
<th>600</th>
<th>750</th>
<th>900</th>
<th>1050</th>
<th>1200</th>
<th>1350</th>
<th>1500</th>
<th>1650</th>
<th>1800</th>
<th>1949</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height H in mm</td>
<td>150</td>
<td>300</td>
<td>450</td>
<td>600</td>
<td>750</td>
<td>900</td>
<td>1050</td>
<td>1200</td>
<td>1350</td>
<td>1500</td>
<td>1650</td>
<td>1800</td>
<td>1949</td>
</tr>
</tbody>
</table>

All combinations for B and H dimensions can be supplied. For sizes larger than indicated in the table several sections can be combined to provide any combination of overall width or height. Sand trap louvres with H between 1050 and 1949 integral sand chutes are fitted (see detail 1). H between 1950 and 3900 they are split on height and supplied with additional sand chute (see detail 2), loose for fitting on site by others. The additional support for reinforcement and assembly of the sand trap louvre combination is to be supplied on site by others. Sand trap louvres with B = 1950 to 3900 are also split into end section left, end section right and middle if required. The vertical joint between two end sections of sand trap louvre is capped on site by others with a loose channel section supplied.

Construction

Two rows of vertically arranged channels sections to form a labyrinth for the air path. Base frame has drainage holes for the sand ensuring the louvre is self cleaning and maintenance free.

Weight

Net weight without packing
Aluminium approx. 18 kg per m² of area (B x H)
Steel approx. 27 kg per m² of area (B x H)

Construction

Vertical section

Horizontal section B = 150...1949 mm

Horizontal section B = 1950...3900 mm

Note: Louvre supplied with Bird Mesh Screen. Galvanised mesh 12 x 12 x 1 mm

Central channel supplied loose to cap joint

Supplied as separate sections – assembly by others on site

End section left – EL
End section right – ER

Detail 1

H = 1050...1949 mm

Detail 2

H = 1950...3900 mm

Additional support for reinforcement by others


**Pressure Drop**

![Graph showing pressure drop against face velocity](image)

**Filtration**

The filtration performance is dependant on the dust type and the velocity of the air:

<table>
<thead>
<tr>
<th>Particle Size Range</th>
<th>Filtration Efficiency in % at 1.0 m/s</th>
<th>at 2.0 m/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>350-700</td>
<td>90</td>
<td>70</td>
</tr>
<tr>
<td>75-700</td>
<td>60</td>
<td>approx. 30</td>
</tr>
</tbody>
</table>

**Example**

For normal operation conditions the sand trap louvres should be rated for a face velocity of approx 1.0 m/s.

- Volume flow: 2430 l/s (8750) m³/h
- With a face velocity of 1.0 m/s
- Area of louvre required: approx. 2.4 m²
- Dimensions selected:
  - Assembly width: 1800 mm
  - Assembly height: 1350 mm
- Total pressure drop: approx. 30 Pa

**Order Code**

- **WSL** / 900 x 900 / 0 / 0 / P9 / RAL 9010 / 25% Gloss

**Order Example**

Make: TROX

Type: AWSL / 1800x1350 / 0 / 0 / P9 / RAL 9010 / 25% Gloss

**Specification Text**

Sand trap louvres for the protection of air intakes exposed to extreme levels of industrial / sand pollution. To separate large dust particles / sand at low air velocities. To be self cleaning and maintenance free. To be used as initial filter to protect conventional plant filters from excessive dust loading.

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