WE SHAPE AIR

BETA INDUSTRIAL PRODUCTS CATALOGUE

PRODUCT BULLETIN 5
index

- GRAVITY AIR LOUVERS 1
- EXHAUST AIR LOUVERS 2
- FRESH AIR LOUVERS - HINGED 3
- FRESH AIR LOUVERS 4
- SAND TRAP LOUVERS 5
- ROUND EXHAUST LOUVER - IMP KLIMA 6
- PERFORMANCE CHART (STL & GAL) 7
- PERFORMANCE CHART (EAL & FAL) 8
The gravity air louver is a wall mounted device. It is composed of a set of horizontally mounted blades; they are normally closed and are free to rotate about the horizontal axis.

The blades & frame are manufactured from aluminum extruded profiles.

**TYPE OF FIXING**

- SCREW FIXING
- CLIP FIXING

**ORDERING SYSTEM**

<table>
<thead>
<tr>
<th>RAL</th>
<th>FINISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIZE</td>
<td>WIDTH x HEIGHT</td>
</tr>
<tr>
<td></td>
<td>MAX SIZE: 2000 MM x 2000 MM</td>
</tr>
<tr>
<td>GAL</td>
<td>GRAVITY AIR LOUVER</td>
</tr>
<tr>
<td>GAL-CR</td>
<td>GRAVITY AIR LOUVER WITH CONNECTING ROD</td>
</tr>
<tr>
<td>NRD</td>
<td>NON RETURN DAMPER</td>
</tr>
<tr>
<td>NRD-CR</td>
<td>NON RETURN DAMPER WITH CONNECTING ROD</td>
</tr>
</tbody>
</table>

Example: GAL 1000 x 150 RAL 9016

ALL DETAILS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE
The exhaust air louver is a weatherproof external cover for air inlet and discharge openings, suitable for most external walling and screening applications.

The exhaust air louver is composed of a set of blades made of heavy gauge aluminium extrusions arranged in horizontal rows and incline downward to protect against rain water.

The exhaust air louver is used in cooling, heating and air ventilation applications.

**ORDERING SYSTEM**

- **RAL:** Powder Coated Finish
- **Anodized:** Anodized Aluminum Finish
- **Size:** Width x Height
  - Max Size: 2000 mm x 2000 mm
- **Type:** Exhaust Air Louver
  - **EAL:** Exhaust Air Louver
  - **EAL / IS:** Exhaust Air Louver with Insect Screen

**EXAMPLE:** EAL 1000x150 Anodized

---

*All details subject to change without prior notice*
The fresh air louver is composed of an exhaust air louver which is fixed to a frame that contains a filter by means of steel hinges.

The filter is made of washable aluminium media. It is attached to the back of the louver and is easily removable.

The fresh air louver can be opened like an ordinary door to give flexibility to access the filter for either cleaning or changing.

The fresh air louver is used in cooling, heating and ventilation application. The existence of filter provides the entrance of clean air to the system.

**FINISH**

- **RAL**: POWDER COATED FINISH
- **AS PER RAL CODES**
- **Anodized**: ANODIZED ALUMINUM FINISH

**SIZE**

- **WIDTH × HEIGHT**
- **MAX SIZE**: 2000 MM × 2000 MM

**TYPE**

- **FALH**: HINGED FRESH AIR LOUVER
- **FALHD**: HINGED FRESH AIR LOUVER WITH DAMPER

**EXAMPLE**: FALH 1000 × 150 Anodized

All details subject to change without prior notice.
The fresh air louver is a simple form of filter louver. It is composed of an exhaust louver with an aluminium filter fixed at the back.

The fresh air louver is used to supply fresh clean air to the handling units.

The filter is made from washable aluminium media and is fixed on the back of the grille.

Insulating gasket is fixed around the back of the frame to prevent infiltration between the frame and the wall.

Available types of finishing:

- Natural anodized aluminium finish.
- Powder coated to RAL codes.

ORDERING SYSTEM

<table>
<thead>
<tr>
<th>Finish</th>
<th>Size</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAL:</td>
<td>WIDTH X HEIGHT</td>
<td>FRESH AIR LOUVER</td>
</tr>
<tr>
<td></td>
<td>MAX SIZE: 2000 MM X 2000 MM</td>
<td>FRESH AIR LOUVER WITH DAMPER</td>
</tr>
<tr>
<td>Anodized:</td>
<td></td>
<td>EXAMPLE: FAL 1000X150 Anodized</td>
</tr>
</tbody>
</table>

All details subject to change without prior notice.
The sand trap louver is made of aluminium section. It is composed of two sets of inverted U-channels, mounted vertically on two opposite rows.

The sand trap louver is used at the fresh air inlet duct of the air handling units. It can lower the dust loading of conventional filtration as it is designed to separate large size sand particles at low to medium speeds. It is also fitted with a bird screen mesh made of galvanized steel to protect against the unwanted objects.

The sand trap louver is a self emptying system. It has a set of holes at the bottom face of the casing to discharge separated sand particles.

Can be supplied (as an option) with:

1. VCD
2. Wiremesh
3. Sliding filter

ORDERING SYSTEM

RAL: POWDER COATED FINISH
Anodized: ANODIZED ALUMINUM FINISH

SIZE: WIDTH X HEIGHT
MAX SIZE: 2000MM X 2000MM

STL SF/IS: SAND TRAP LOUVER
STLC SF/IS: SAND TRAP LOUVER WITH SAND CHUTE
OPTIONS
SF: WITH SLIDING FILTER
IS: WITH INSECT SCREEN

EXAMPLE: STL 1050 X 150 RAL 9016

HANDLE OF SAND FILTER
Sand filter 20mm thick
freely sliding upward

View detail from arrow A

Frame of sand filter

Handle riveted to frame

All details subject to change without prior notice
**Application:**

Type OZR-1 circular protection Grilles are used in all kinds of low pressure air conditioning, air heating and ventilation, where round supply and exhaust air opening require protection against outside influence (rain, birds, insects etc.).

**Description:**

Type OZR CIRCULAR PROTECTION Grillers are constructed of round frame, horizontal blades and protective grille. They are made of galvanised sheet metal or aluminium and could be finished with any RAL paint according to the customer's request.

**Standard sizes and installation:**

<table>
<thead>
<tr>
<th>Sizes</th>
<th>D</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>B</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>350</td>
<td>410</td>
<td>450</td>
<td>25</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>500</td>
<td>400</td>
<td>460</td>
<td>510</td>
<td>550</td>
<td>25</td>
<td>37</td>
</tr>
<tr>
<td>630</td>
<td>500</td>
<td>520</td>
<td>580</td>
<td>80</td>
<td>25</td>
<td>37</td>
</tr>
<tr>
<td>800</td>
<td>630</td>
<td>620</td>
<td>640</td>
<td>80</td>
<td>25</td>
<td>37</td>
</tr>
<tr>
<td>900</td>
<td>790</td>
<td>819</td>
<td>950</td>
<td>950</td>
<td>50</td>
<td>65</td>
</tr>
<tr>
<td>1000</td>
<td>990</td>
<td>990</td>
<td>1029</td>
<td>1070</td>
<td>50</td>
<td>65</td>
</tr>
</tbody>
</table>

**Chart of total air pressure drop:**

<table>
<thead>
<tr>
<th>Vel.</th>
<th>400</th>
<th>500</th>
<th>630</th>
<th>800</th>
<th>900</th>
<th>1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (m²)</td>
<td>0.10</td>
<td>0.17</td>
<td>0.27</td>
<td>0.44</td>
<td>0.56</td>
<td>0.69</td>
</tr>
</tbody>
</table>

From the chart, the total air pressure drop ($\Delta P_{cel}$) in respect to terminal velocity ($v$) on free sectional area ($A$) is calculated.

The right for technical modification reserved.
**SAND TRAP LOUVERS**

> Test results conducted on similar equipment indicated a typical efficiency of 90% on AC coarse (150 - 700 microns) and 60% on AC fine test ducts (75 - 700 microns).

> Free area ratio = 0.32 (approx.)

> To calculate the air flow rate:

\[ \text{CFM} = \frac{0.32 \times A (\text{in}^2) \times B (\text{in}^2) \times \text{Face velocity (fpm)}}{144} \]

\[ \text{L/S} = \frac{0.32 \times A (\text{mm}) \times B (\text{mm}) \times \text{Face velocity (m/s)}}{1000} \]

> For normal operation conditions, sand trap louvers used for natural ventilation purpose are rated at a recommended Face velocity of 1-2 m/s

---

**GRAVITY AIR LOUVERS**

> Free area ratio (approx.) = 0.82 for 100% open blades.

> To calculate the air flow rate:

\[ \text{CFM} = \frac{0.82 \times A (\text{in}^2) \times B (\text{in}^2) \times \text{Face velocity (fpm)}}{144} \]

\[ \text{L/S} = \frac{0.82 \times A (\text{mm}) \times B (\text{mm}) \times \text{Face velocity (m/s)}}{1000} \]
### Exhaust Air Louvers

- Free area ratio (approx.) = 0.42
- To calculate the air flow rate:
  \[
  \text{CFM} = \frac{0.42 \times A (in^2) \times B (in^2) \times \text{Face velocity (fpm)}}{144}
  \]
  \[
  \text{L/S} = \frac{0.42 \times A (mm) \times B (mm) \times \text{Face velocity (m/s)}}{1000}
  \]

### Fresh Air / Filter Louvers

- Free area ratio (approx.) = 0.37
- To calculate the air flow rate:
  \[
  \text{CFM} = \frac{0.37 \times A (in^2) \times B (in^2) \times \text{Face velocity (fpm)}}{144}
  \]
  \[
  \text{L/S} = \frac{0.37 \times A (mm) \times B (mm) \times \text{Face velocity (m/s)}}{1000}
  \]

---

**All details subject to change without prior notice**