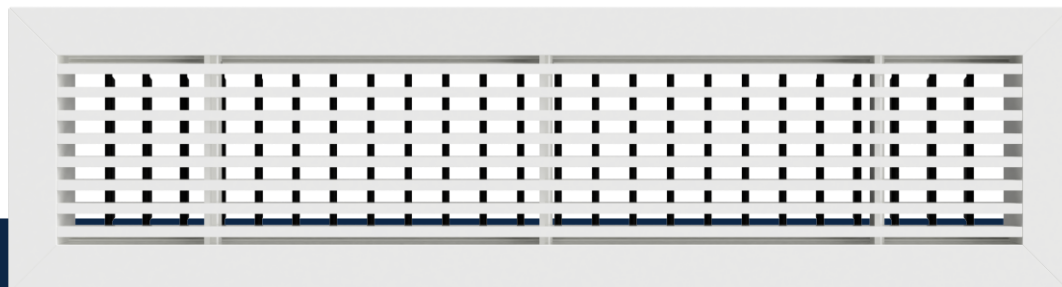


Air through perfection

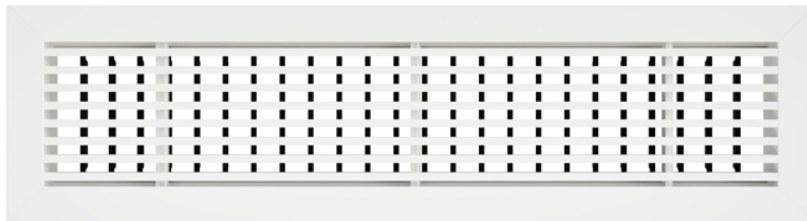
Decorative grille

**LBD**



**ACP**  
Decorative linear grilles

## Decorative grille LBD



### Description

LBD is a decorative linear aluminum grille with two rows of blades.

The grille is recommended for installations with constant or variable air flow.

LBD can be applied to the ceiling or wall and is used to introduce air.

### Technical specifications

#### Characteristics

The grille is provided with two rows of blades.

Fixed front blades parallel to the length. They are inclined at 0° or 15°.

LBD-0 - blades with 0° inclination

LBD-15 - blades with 15° inclination

Adjustable blades positioned in the background. They are arranged perpendicular to the length and allow the direction of the air jet.

For grilles with a length > 3m, the execution is modular, and the product is delivered together with the necessary connecting elements.

Depending on the overall position, the modular parts are built without termination elements or with a single element.

As standard, the grille is manufactured with holes for screw mounting.

The product is delivered with fixing screws painted in the shade of the product.

Optionally, a mounting frame can be used for concealed mounting.

For installation with a mounting frame, the grille is accessorized with fixing clips.

Dimensional limits: Lint > 3m modular design, Hmax = 350 mm (standard).

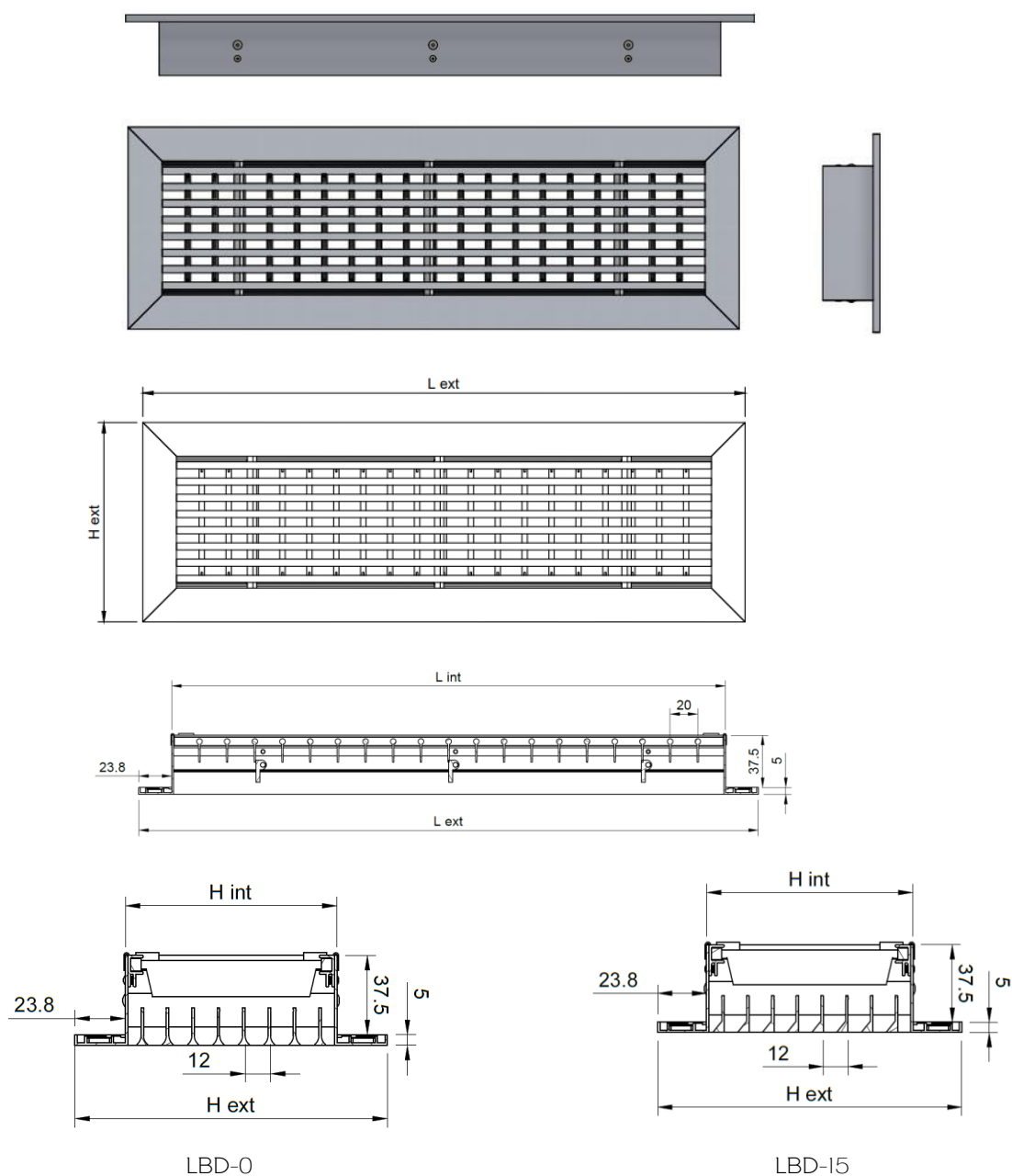
## Materials

The grille is made of extruded aluminum, the frame and front blades are painted in glossy white RAL9016 and the adjustable blades are made of black anodized aluminum (standard finish).

The following finishes are also available on request:

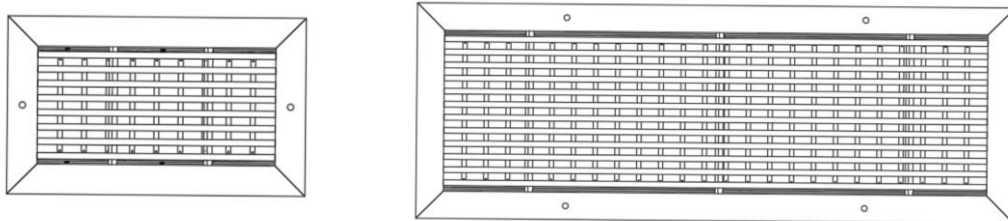
- EL - natural anodized aluminum with black anodized adjustable blades
- RAL... - fully painted (including adjustable blades) in any shade from the RAL palette.

## Technical drawing



## Product specifications

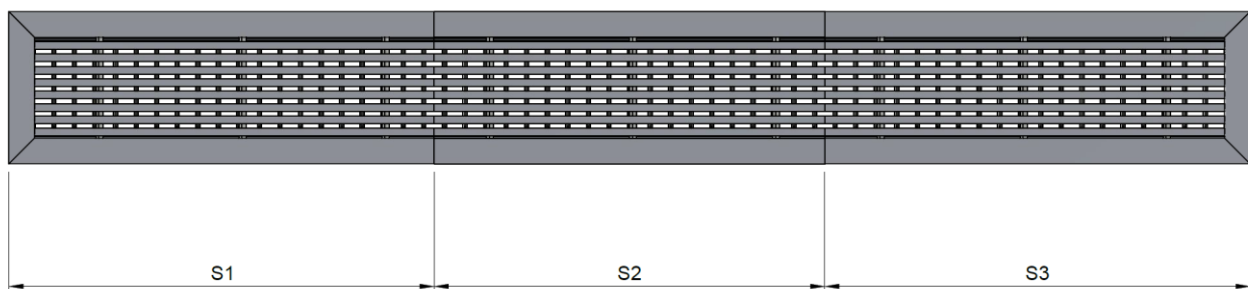
The grille is made standard with mounting holes positioned on the product frame. The number of holes and their position are made according to the size of the product, according to the pictures and table.



| L x H<br>[mm] | Number of holes |     |     |     |     |      |      |      |      |      |      |      |      |      |
|---------------|-----------------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
|               | 100             | 200 | 300 | 400 | 500 | 1000 | 1100 | 1200 | 1500 | 1600 | 2000 | 2100 | 2500 | 3000 |
| 85            | 2               | 2   | 4   | 4   | 4   | 4    | 4    | 6    | 6    | 6    | 8    | 8    | 8    | 8    |
| 100           | 2               | 2   | 4   | 4   | 4   | 4    | 4    | 6    | 6    | 6    | 8    | 8    | 8    | 8    |
| 150           | 2               | 2   | 4   | 4   | 4   | 4    | 4    | 6    | 6    | 6    | 8    | 8    | 8    | 8    |
| 200           | 2               | 2   | 4   | 4   | 4   | 4    | 4    | 6    | 6    | 6    | 8    | 8    | 8    | 8    |
| 300           | 4               | 4   | 4   | 4   | 4   | 4    | 4    | 6    | 6    | 6    | 6    | 8    | 8    | 8    |
| 350           | 4               | 4   | 4   | 4   | 4   | 4    | 4    | 6    | 6    | 6    | 6    | 8    | 8    | 8    |

## Section assembly

Large length grilles are made of modules with a maximum length of 3 m. In this case the product is delivered with connecting elements between modules.



S1

S3

S2

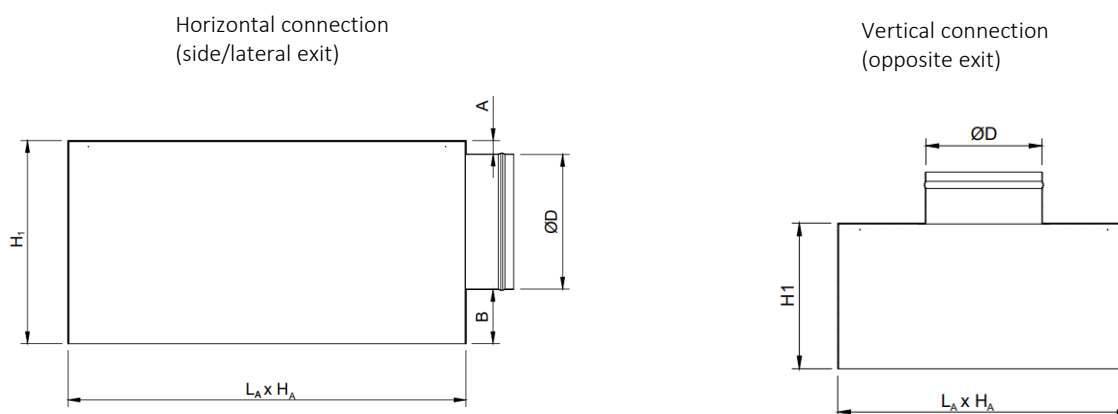
## Accessories

The grille can be delivered with a connecting plenum to the circular duct, with horizontal or vertical connection.

The plenum is provided with suspension elements (lugs) and bead roll on the spigot, for easy fixing of the flexible duct.

For hidden mounting the grille can be equipped with a mounting frame (CC).

### Adapter (plenum box)

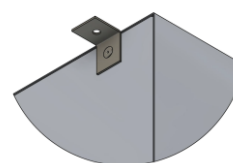
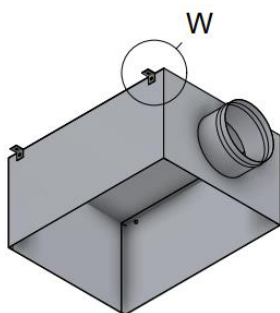


\* For fixing with screws:  $L_A \times H_A = L_{int} \times H_{int} \text{ grille} + 5 \text{ mm}$

\* For fixing with mounting frame:  $L_A \times H_A = L_c \times H_c \text{ mounting frame} + 3 \text{ mm}$

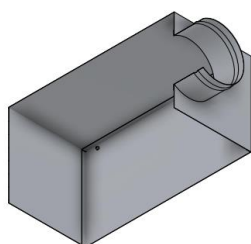
A, B, H1 – depending on demand and  $\varnothing D$

The adapter is made of Z140 galvanized steel sheet and is equipped with suspension lugs.

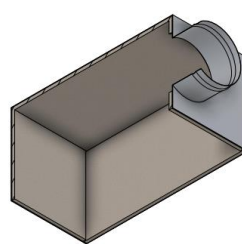


W - Suspension lug

The plenum is available in two options, uninsulated or insulated with 6 mm thick elastomeric rubber.



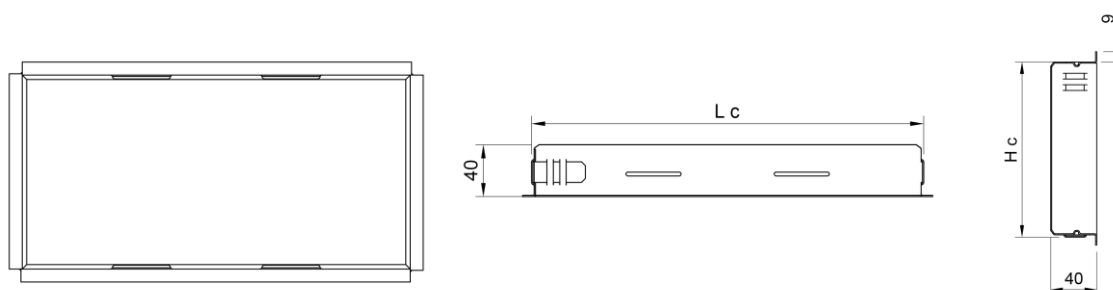
AN - Uninsulated adapter



AIZ - Insulated adapter

## Mounting frame (CC)

The mounting frame is used when a hidden, easy and fast installation of the grille is desired. Depending on the size required, it is made and delivered in one or more pieces.



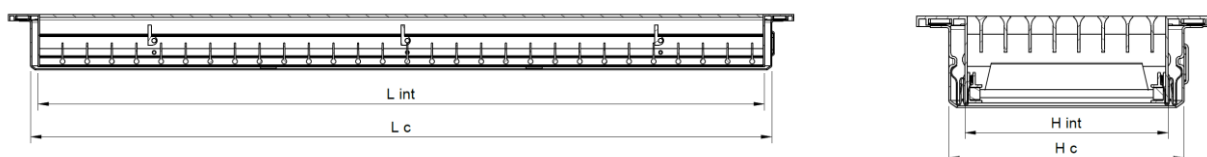
| L x H<br>[mm] | Mounting frame |     |      |      |      |      |      |      |      |      |
|---------------|----------------|-----|------|------|------|------|------|------|------|------|
|               | 100            | 500 | 1000 | 1100 | 1200 | 1500 | 2000 | 2100 | 2500 | 3000 |
| 85            | 1              | 1   | 1    | 1    | 2    | 2    | 2    | 3    | 3    | 3    |
| 100           | 1              | 1   | 1    | 1    | 2    | 2    | 2    | 3    | 3    | 3    |
| 150           | 1              | 1   | 1    | 1    | 2    | 2    | 2    | 3    | 3    | 3    |
| 200           | 1              | 1   | 1    | 1    | 2    | 2    | 2    | 3    | 3    | 3    |
| 300           | 1              | 1   | 1    | 1    | 2    | 2    | 2    | 3    | 3    | 3    |
| 350           | 1              | 1   | 1    | 1    | 2    | 2    | 2    | 3    | 3    | 3    |

For installation with mounting frame, the grille is equipped with clips that allow quick and easy clamping.

The number of mounting clips that the grille is equipped depends on the size of the product.

| L x H<br>[mm] | Number of mounting clips |     |     |     |     |      |      |      |      |      |      |      |      |      |
|---------------|--------------------------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|
|               | 100                      | 200 | 300 | 400 | 500 | 1000 | 1100 | 1200 | 1500 | 1600 | 2000 | 2100 | 2500 | 3000 |
| 85            | 2                        | 2   | 4   | 4   | 4   | 4    | 6    | 6    | 6    | 8    | 8    | 10   | 10   | 10   |
| 100           | 2                        | 2   | 4   | 4   | 4   | 4    | 6    | 6    | 6    | 8    | 8    | 10   | 10   | 10   |
| 150           | 2                        | 2   | 4   | 4   | 4   | 4    | 6    | 6    | 6    | 8    | 8    | 10   | 10   | 10   |
| 200           | 2                        | 2   | 4   | 4   | 4   | 4    | 6    | 6    | 6    | 8    | 8    | 10   | 10   | 10   |
| 300           | 6                        | 6   | 6   | 6   | 6   | 6    | 6    | 6    | 6    | 8    | 8    | 12   | 12   | 12   |
| 350           | 6                        | 6   | 6   | 6   | 6   | 6    | 6    | 6    | 6    | 8    | 8    | 12   | 12   | 12   |

Example : LBD-0 + CC



$$Lc \times Hc = Lint \times Hint \text{ grille} + 18 \text{ mm}$$

## Functional parameters

| Air flow<br>[m³/h] | L x H [mm] | 250x100 | 300x100 | 400x100 | 500x100 | 600x100 | 800x100 | 1000x100 | 600x150 | 1000x150 | 600x200 | 800x200 | 1000x200 |
|--------------------|------------|---------|---------|---------|---------|---------|---------|----------|---------|----------|---------|---------|----------|
|                    | Ak [m²]    | 0.009   | 0.010   | 0.015   | 0.019   | 0.023   | 0.033   | 0.04     | 0.036   | 0.0648   | 0.0512  | 0.068   | 0.096    |
| 100                | X [m]      | 2.7     |         |         |         |         |         |          |         |          |         |         |          |
|                    | NR [dB(A)] | 22.0    |         |         |         |         |         |          |         |          |         |         |          |
|                    | ΔPt [Pa]   | 6.0     |         |         |         |         |         |          |         |          |         |         |          |
|                    | Veff [m/s] | 3.2     |         |         |         |         |         |          |         |          |         |         |          |
| 140                | X [m]      | 3.3     | 2.8     |         |         |         |         |          |         |          |         |         |          |
|                    | NR [dB(A)] | 25.0    | 21.0    |         |         |         |         |          |         |          |         |         |          |
|                    | ΔPt [Pa]   | 8.6     | 7.0     |         |         |         |         |          |         |          |         |         |          |
|                    | Veff [m/s] | 4.4     | 3.7     |         |         |         |         |          |         |          |         |         |          |
| 200                | X [m]      | 4.7     | 4.2     | 3.6     | 3.0     |         |         |          |         |          |         |         |          |
|                    | NR [dB(A)] | 31.3    | 26.3    | 24.0    | 19.0    |         |         |          |         |          |         |         |          |
|                    | ΔPt [Pa]   | 19.0    | 14.3    | 7.1     | 5.0     |         |         |          |         |          |         |         |          |
|                    | Veff [m/s] | 6.3     | 5.3     | 3.7     | 2.9     |         |         |          |         |          |         |         |          |
| 300                | X [m]      | 7.0     | 6.4     | 5.6     | 4.8     | 3.1     | 2       |          |         |          |         |         |          |
|                    | NR [dB(A)] | 43.8    | 37.5    | 30.0    | 22.5    | 20.0    | 17      |          |         |          |         |         |          |
|                    | ΔPt [Pa]   | 42.9    | 25.7    | 14.3    | 10.0    | 9.0     | 6       |          |         |          |         |         |          |
|                    | Veff [m/s] | 9.5     | 8.0     | 5.5     | 4.3     | 3.6     | 2.5     |          |         |          |         |         |          |
| 400                | X [m]      | 9.4     | 8.7     | 7.2     | 6.4     | 5.9     | 5.1     | 4.2      | 4       | 2.3      |         |         |          |
|                    | NR [dB(A)] | 53.8    | 47.5    | 40.0    | 31.3    | 27.5    | 25      | 20       | 20      | 18       |         |         |          |
|                    | ΔPt [Pa]   | 71.4    | 50.0    | 25.7    | 16.0    | 12.9    | 7.1     | 6        | 6       | 4        |         |         |          |
|                    | Veff [m/s] | 12.6    | 10.7    | 7.3     | 5.8     | 4.8     | 3.4     | 2.8      | 3.1     | 1.7      |         |         |          |
| 600                | X [m]      |         | 12.8    | 11.1    | 9.7     | 8.2     | 7.8     | 6.7      | 7       | 5        | 4       | 3       |          |
|                    | NR [dB(A)] |         | 60.0    | 52.5    | 43.8    | 40.0    | 32.5    | 32       | 31.3    | 23       | 25      | 20      |          |
|                    | ΔPt [Pa]   |         | 114.3   | 57.1    | 42.9    | 28.6    | 17.1    | 10       | 11.4    | 6        | 9       | 7       |          |
|                    | Veff [m/s] |         | 16.0    | 11.0    | 8.7     | 7.2     | 5.1     | 4.2      | 4.6     | 2.6      | 3.3     | 2.5     |          |
| 800                | X [m]      |         |         |         | 13.3    | 11.7    | 10.3    | 9.4      | 9.4     | 7.6      | 7.8     | 6.5     | 3        |
|                    | NR [dB(A)] |         |         |         | 56.3    | 50.0    | 42.0    | 39       | 37.5    | 26.3     | 31.3    | 26      | 20       |
|                    | ΔPt [Pa]   |         |         |         | 68.6    | 51.0    | 31.0    | 22.0     | 21.4    | 7.1      | 11.4    | 10      | 7        |
|                    | Veff [m/s] |         |         |         | 11.6    | 9.6     | 6.8     | 5.6      | 6.2     | 3.4      | 4.3     | 3.3     | 2.3      |
| 1000               | X [m]      |         |         |         |         |         | 12.2    | 11.3     | 12.2    | 8.9      | 10      | 8.7     | 5.0      |
|                    | NR [dB(A)] |         |         |         |         |         | 52.5    | 46.3     | 47.5    | 32.0     | 37.5    | 31.3    | 25       |
|                    | ΔPt [Pa]   |         |         |         |         |         | 42.9    | 28.6     | 31.4    | 16.0     | 17.1    | 11.4    | 9.0      |
|                    | Veff [m/s] |         |         |         |         |         | 8.5     | 6.9      | 7.7     | 4.3      | 5.4     | 4.1     | 2.9      |
| 1400               | X [m]      |         |         |         |         |         |         |          | 16.7    | 10.8     | 13.3    | 12      | 8.0      |
|                    | NR [dB(A)] |         |         |         |         |         |         |          | 60      | 43.8     | 50      | 41.3    | 35       |
|                    | ΔPt [Pa]   |         |         |         |         |         |         |          | 57.1    | 35.0     | 31.4    | 22.0    | 17.1     |
|                    | Veff [m/s] |         |         |         |         |         |         |          | 10.8    | 6.0      | 7.6     | 5.7     | 4.1      |

The legend

Ak [m²] - The free surface

X [m] - The length of the air jet at a speed of 0.2 m/s

NR [dB (A)] - Noise level without room attenuation

ΔPt [Pa] - Pressure loss

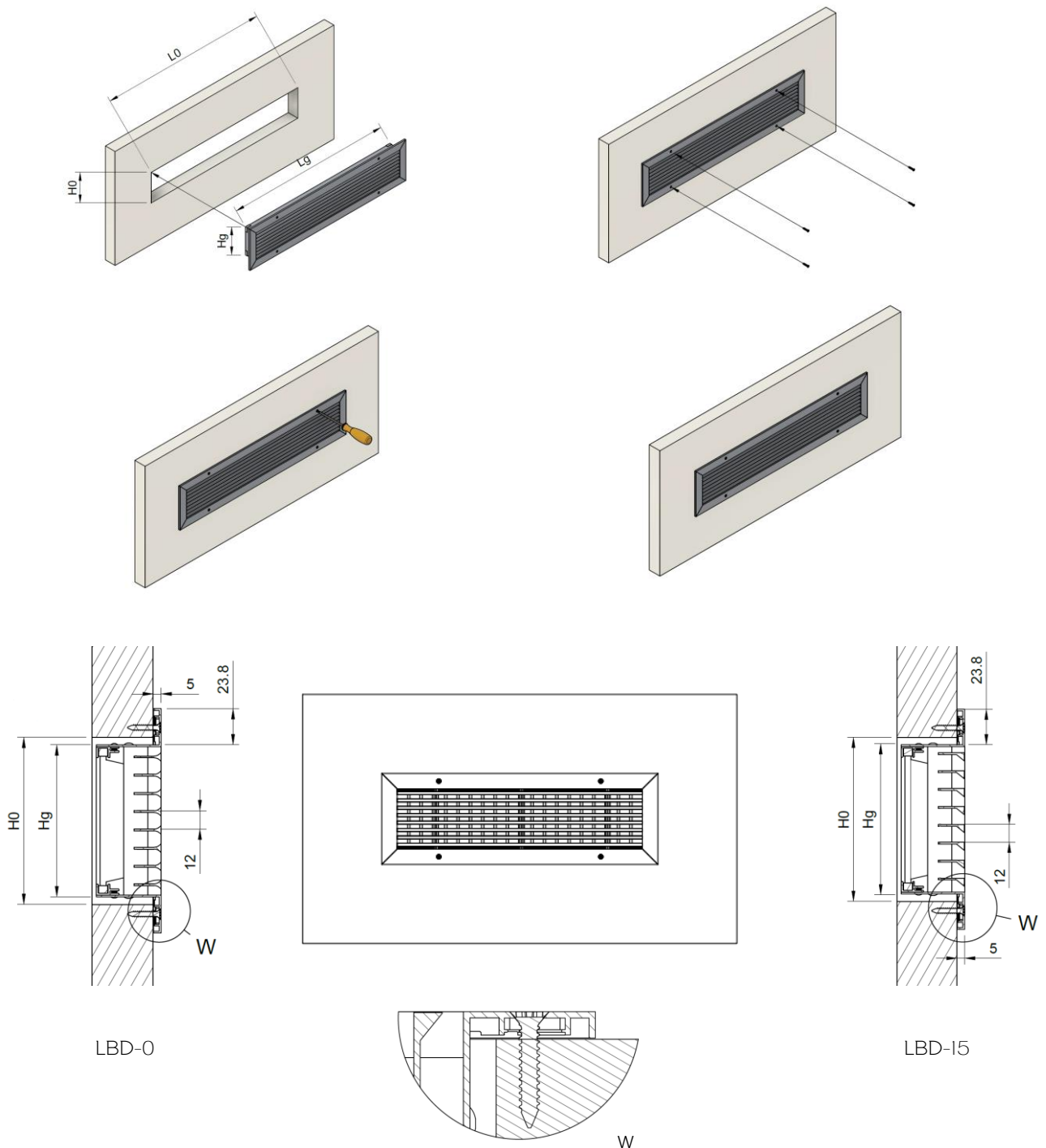
Veff [m/s] – Air velocity in the grille

## Installation

As standard, the grille is mounted by screws.

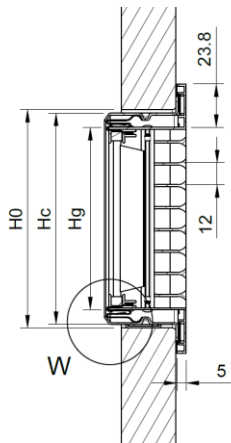
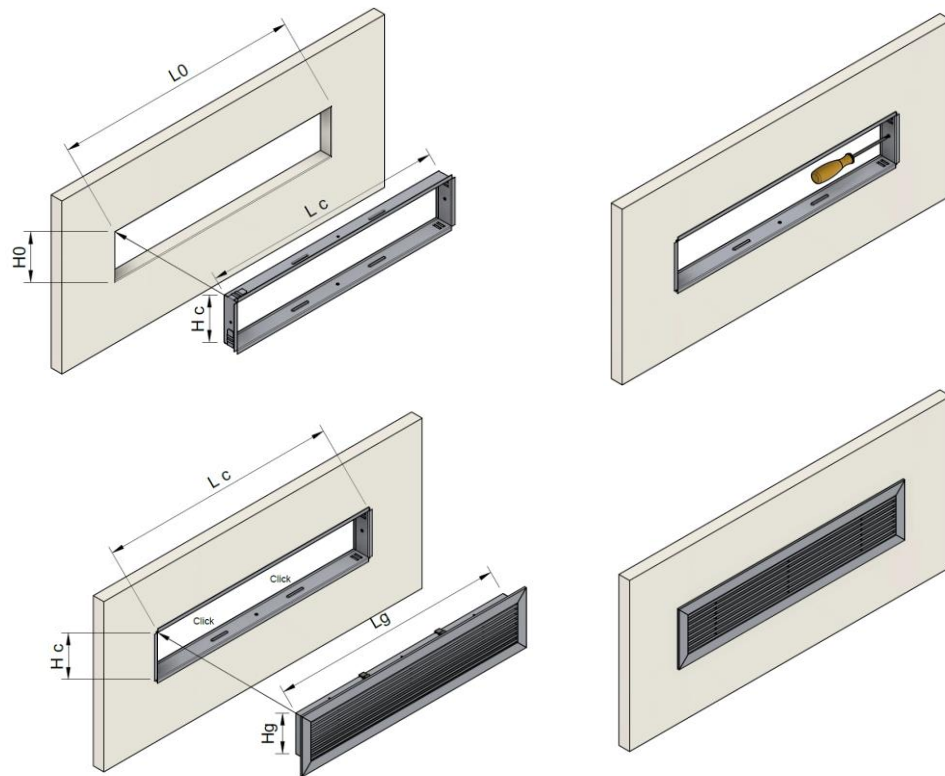
Optionally, for a hidden and easy assembly, a mounting frame can be used. The installation of the grille in the mounting frame is done by clamping.

### Wall/ceiling mounting with screws

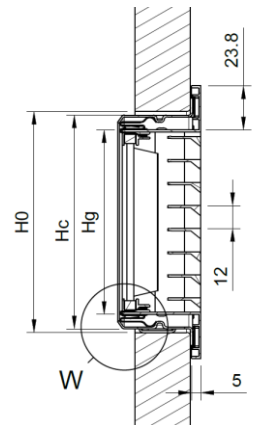
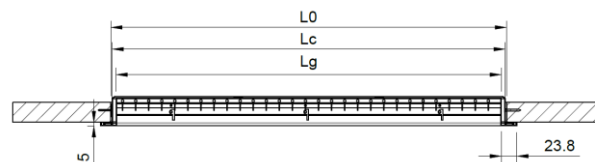
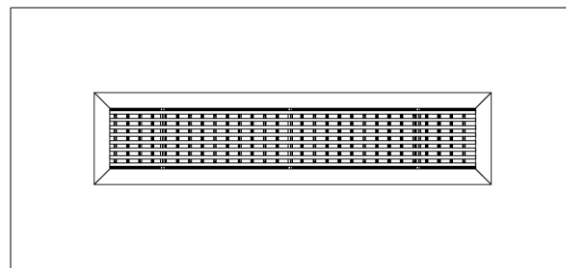




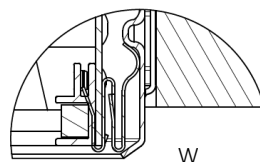
# Wall/ceiling installation with mounting frame



LBD-0



LBD-15



## Order code

Example on how to place an order

| Type                                       | Dimensions | Section | Accessories | Mounting | Finish |
|--|------------|---------|-------------|----------|--------|
| <b>LBD-0</b>                               |            |         |             |          |        |
| <b>LBD-15</b>                              |            |         |             |          |        |
| On request                                 |            |         |             |          |        |
| <b>S1</b> - Left end section               |            |         |             |          |        |
| <b>S2</b> - Middle section                 |            |         |             |          |        |
| <b>S3</b> - Right end section              |            |         |             |          |        |
| <b>AIZ</b> - Insulated adapter             |            |         |             |          |        |
| <b>AN</b> - Uninsulated adapter            |            |         |             |          |        |
| Screws (standard)                          |            |         |             |          |        |
| <b>CC</b> - Mounting frame (optional)      |            |         |             |          |        |
| <b>RAL9016</b>                             |            |         |             |          |        |
| <b>RAL..</b> - Other RAL colors on request |            |         |             |          |        |
| <b>EL</b> - Natural anodized               |            |         |             |          |        |

Note: For RAL9016 and EL finishes the adjustable blades are made of black anodized aluminum