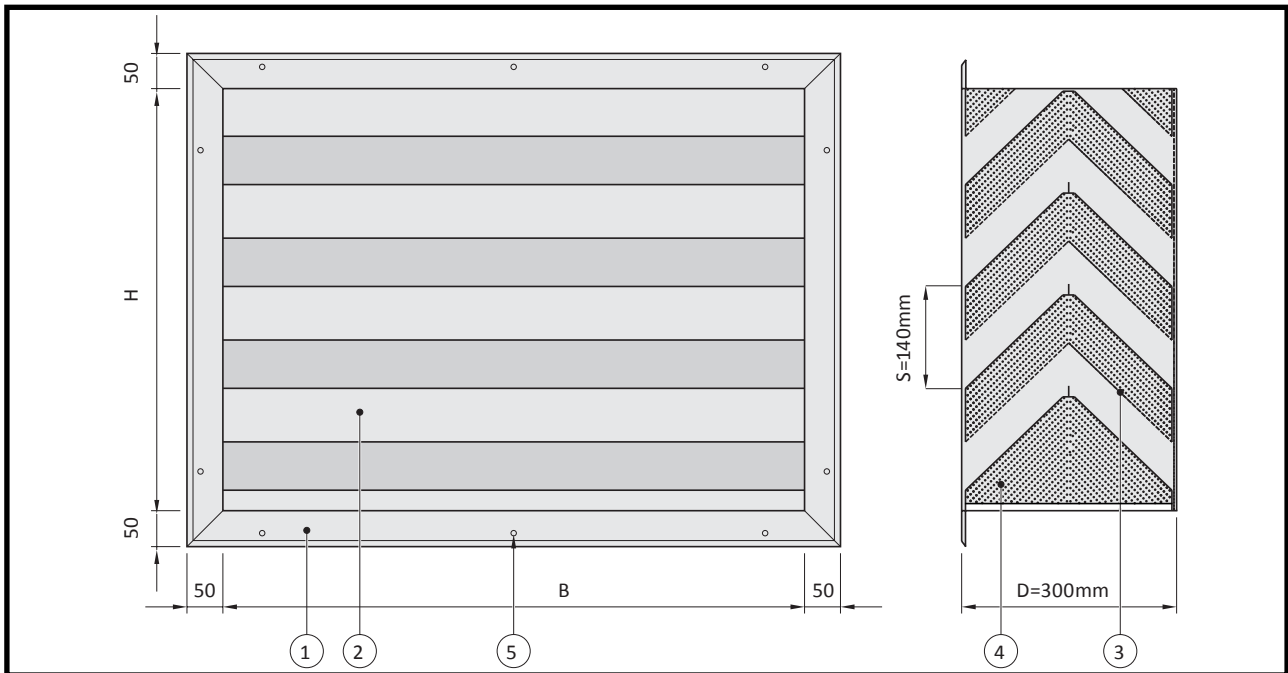


Sound attenuator grilles



GDBV-140/45

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Type GDBV-140/45


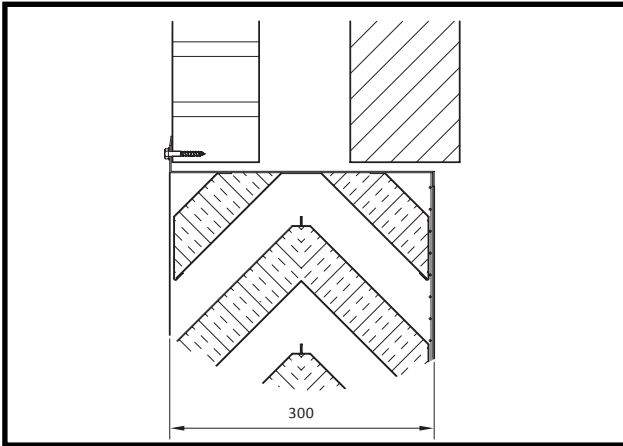
- | | | |
|----------------------------------|--------------------|------------|
| 1 Housing | 3 Perforated sheet | 5 Borehole |
| 2 Sound- and rainscreening slats | 4 Glass wool | |

Specifications

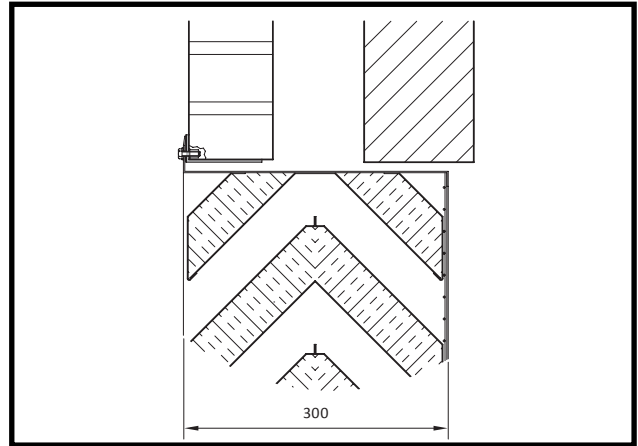
Applications	The soundproofing exterior grilles are suitable for insertion in cooling motor units, unit spaces from airconditioning systems, boiler rooms, engine rooms and roof central units.	
Advantages	Combination of rainproof grille and damper in 1 product.	
Dimensions	Slat distance	140 mm.
	Depth	300 mm.
	Flange width	50 mm undrilled (default)
	Free cross-section	V.D. = approx. 32 % (depends on height)
Dimensions	<ul style="list-style-type: none"> All dimensions in height and width are available. The grille is separated if the width or height measurement is bigger than 2200 mm (powder-coated grilles bigger than 2000 mm). See page 5 for a separation example. The grille is separated if the width or height measurement is bigger than 2800 mm. See page 5 for a separation example. Flange widths can be delivered bigger than standard against additional cost. The minimum dimensions are 300 x 380 mm (B x H). 	
Version	The default housing has a coupling flange on the front. This housing has 50 mm thick sound- and rainscreen slats.	
Material	Housing	Sendzimir galvanised sheet steel. DX51D Z275-MA quality. 1.5 mm thickness.
	Soundproofing slats	Composed of: Sendzimir galvanised steel 1 mm thick. DX51D Z275-MA quality. Perforated Sendzimir galvanised sheet 1 mm thick
	Filling	Glass wool with glass fleece.
	Mesh	Spot welded galvanised mes. 19 x 19 mm mesh size. 1.45 mm wire diameter.
Different material	<ul style="list-style-type: none"> Aluminium quality, EN AW-5754 H12/H22. Stainless steel, quality AISI 316, active ingredient no. 1.4401. 	
Post-treatments	Internal and external powder-coating with polyester powder (T.G.I.C. free) in a RAL colour to be specified. Single-layer thickness of layer is 60 - 80 micrometer, double layer thickness of layer is at least 90 micrometer. Guarantee with gradual reduction on powdercoating to be consulted.	
Mounting	See page 5 for mounting examples.	
	<ul style="list-style-type: none"> Grilles are delivered by default with undrilled flanges and fit openings with dimensions (B + 25) x (H + 25) mm. Drilled flanges can be delivered against additional charge. 	

Details	Possible versions	<ul style="list-style-type: none">• Walls.• Round.• Trapezoidal.• Oval.• Rhombic.
	Different mesh	<ul style="list-style-type: none">• Stainless steel mesh.• Stainless steel gauze.• Aluminium mesh.
Order example	Please state the following information in your order:	
	Number	2
	Type	GDBV-145/45
	Dimensions	800 X 1000 (B x H)
	Details	Single-layer powder-coating in RAL-XXXX
	Shipping address	Including postal code and contact person

Mounting examples

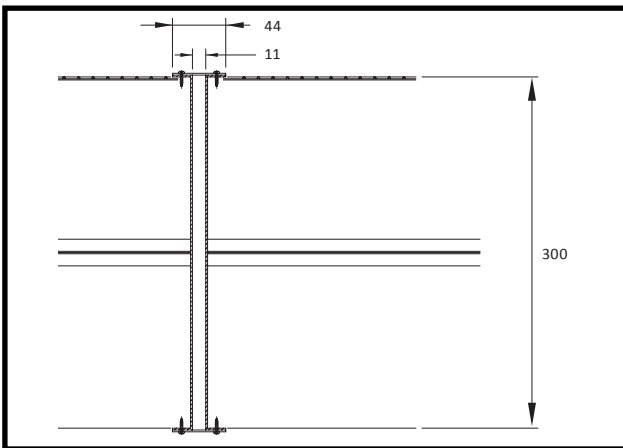


Picture 1: Mounting with IR

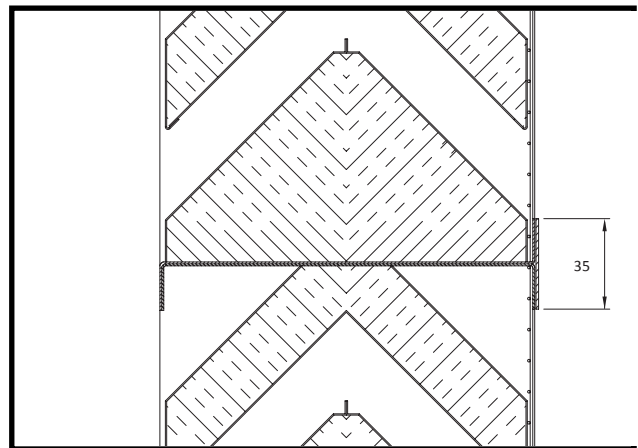


Picture 2: Mounting without IR

Separations



Picture 3: A width separation



Picture 4: A height separation

Charts

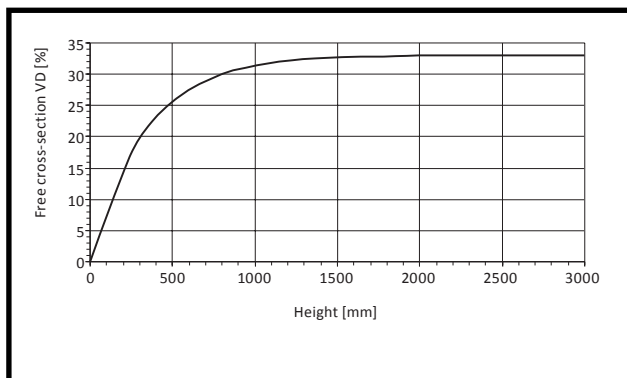


Chart to determine the free cross-section V.D. in %.

The free cross-section V.D. of a grille depends on the height measurement

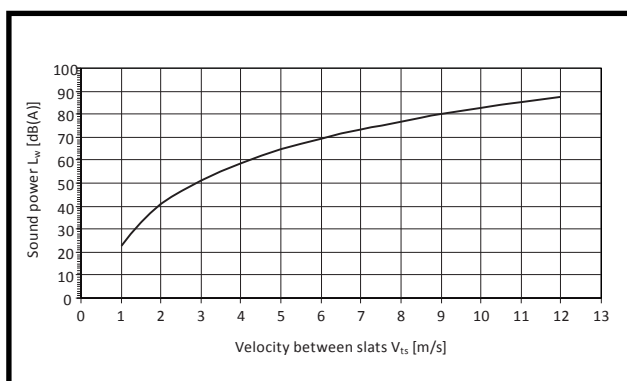


Chart to determine the sound power L_w in dB(A).

The following chart represents the relationship between the air velocity between the slats V_{ts} and the sound power L_w , based on an inlet cross-section $A = 1 \text{ m}^2$.

The relationship between the inlet cross-section velocity V_{as} and the velocity between the slats is given by:

$$V_{ts} = V_{as} * \frac{100}{V.D.} \quad [\text{m/s}] \quad (1)$$

$$V_{as} = \frac{\varnothing \text{ [m}^3/\text{s}]}{B[\text{m}] * H[\text{m}]} \quad [\text{m/s}] \quad (2)$$

For inlet cross-sections other than 1 m^2 the reading for L_w must be corrected by correction factor C according to the following table, with

$$A = B * H$$

A [m ²]	0.5	1	1.5	2	2.5	3	3.5	4
C	-3	0	+1.8	+3	+4	+4.8	+5.4	+6

$$L_{wC} = L_w + C$$

(The tested grille is mounted on a height of 1135 mm, dimensions grille 800 * 800 mm.)

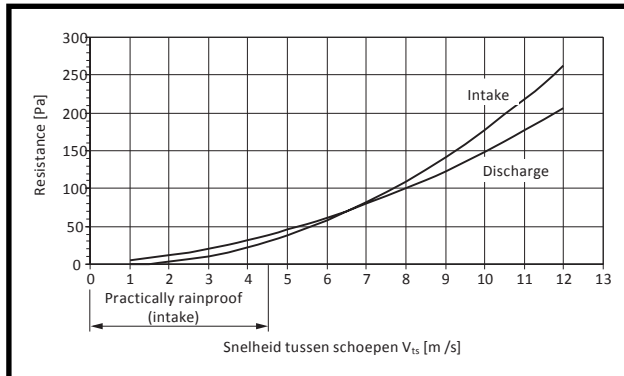


Chart to determine the resistance in Pa.

The accompanying graph represents the relationship between air velocity between the slats (V_a) and the resistance. V_{t3} can be determined via formulas (1) and (2).

The resistance is determined for grilles connected to an air-duct system. when the grilles are not directly connected to an air-duct system, the resistance can be considerably lower, depending on the situation

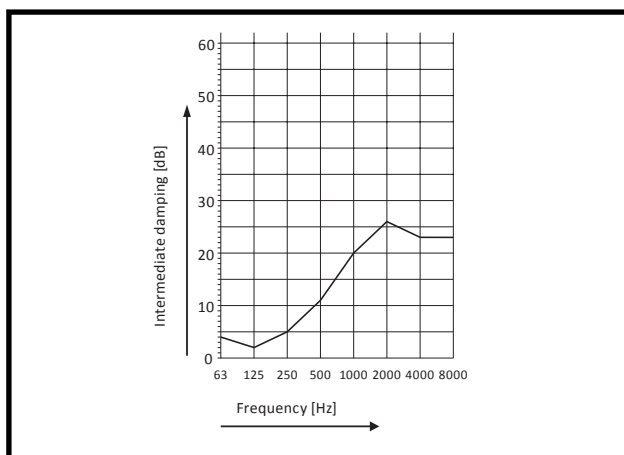


Chart to determine the intermediate damping in dB.

The accompanying graph shows the relationship between the frequency (Hz) and the insertion loss (dB).

Options

Combination examples

The sound-insulating exterior grilles can be combined with the following products

- Multileaf dampers.
- Self-closing valves.
- (Flat) filters.
- Fire Block.