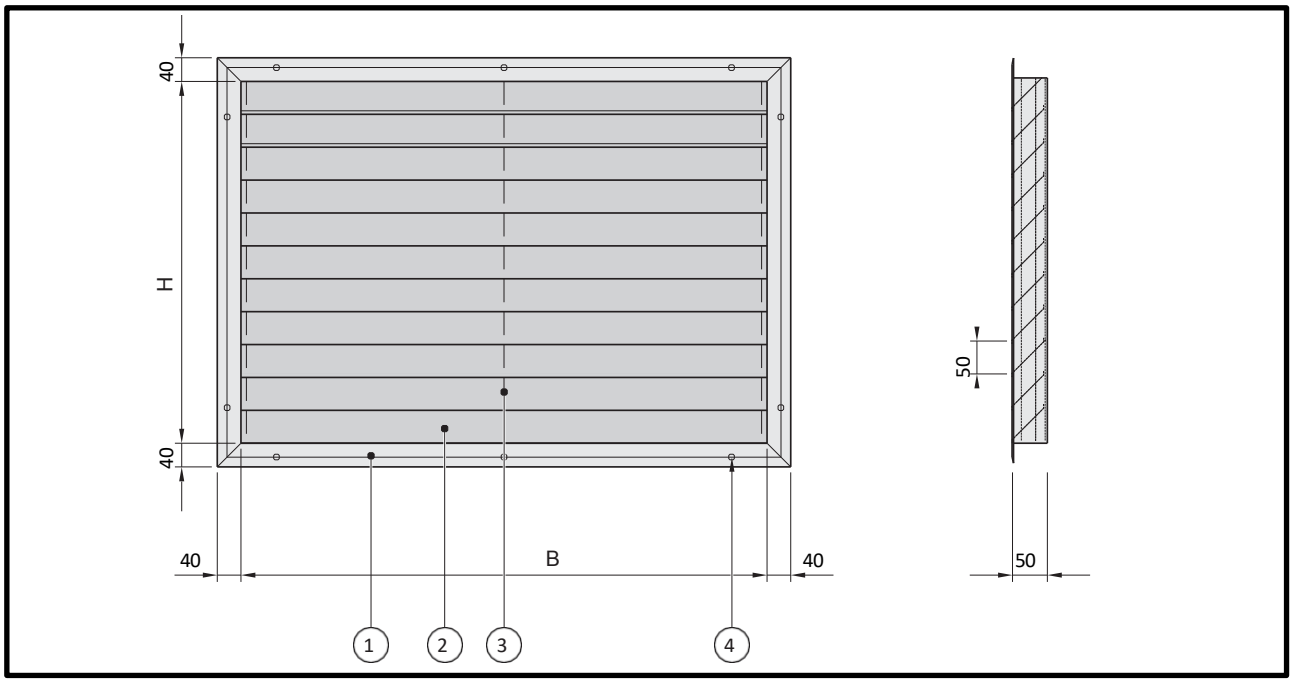
Steel outdoor air grilles

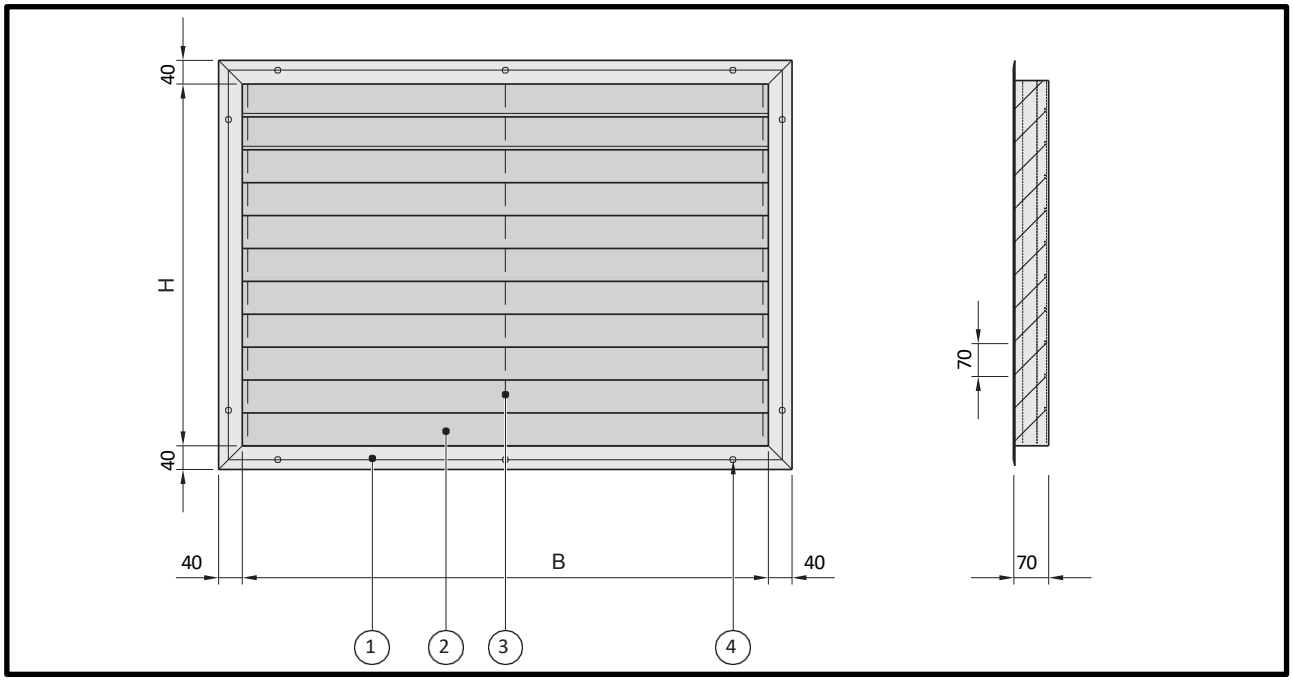
BV-50 and BV-70

Type BV-50



1 Flange edge
2 Blade
3 Support rod
4 Bore (optional)

Type BV-70



1 Flange edge
2 Blade
3 Support rod
4 Bore (optional)

Specifications

Application	Rain-proof, air intake or exhaust through exterior walls.	
Advantages	• Strong . • Good value for money. • Burglary-resistant class II according to NEN 5096.	
Sizes BV-50	Blade width	50 mm.
	Installation depth	50 mm
Sizes BV-70	Blade pitch	70 mm
	Depth	70 mm
Dimensions	• All dimensions in height and width are available. • The grille is provided with a grid pattern if the width and height dimensions exceed 2200 mm (for powder-coated grilles larger than 2000 mm). See page 5 for an example of grid patterns. • The grating is provided with a division if the width and/or height exceeds 2800 mm. See page 5 for an example of divisions. • Grilles with a grid pattern cannot be supplied with a mounting frame. • Flange widths can be supplied smaller or larger than standard for an additional charge.	
Model	• The profiled blades are positioned at a fixed angle of 45° to prevent direct rain impact. • The bottom blade is designed as a drip edge. • The profiled flange edge is 40 mm wide and comes standard without holes. • Spot-welded galvanized mesh is located on the rear side.	
Material	Blades	• Sendzimir galvanized steel sheet. • Grade DX51D Z275-MA. • 1,5 mm thick.
	Flange edge	• Sendzimir galvanized steel sheet. • Grade DX51D Z275-MA. • 1,5 mm thickness.
	Wire mesh	• Spot-welded, galvanized. • 12,7 x 12,7 mm mesh size. • 1 mm wire diameter.
Alternative materials upon request.	Standard options are aluminum, 304 stainless steel, and 316 stainless steel. Other materials available The type designation is supplemented with a slash and the material code (see order example).	
Finishing options	• Powder coating with polyester powder (T.G.I.C.-free) in a RAL color to be specified. Single-layer coating thickness is 60–80 micrometers; double-layer coating thickness is at least 90 micrometers. A decreasing warranty on the powder coating is available upon consultation.	
Installation	See page 5 for installation examples. • Grilles without a mounting frame are supplied as standard with undrilled flanges and fit into openings with dimensions (W + 15) x (H + 15) mm. • Flanges can be provided with holes at an additional cost. • Grilles can be fitted with mounting strips on the back for an additional charge. This is for installation from the inside. • Grille flanges can be thickened. This is for the purpose of installing the grilles in facade and window profiles (installation in accordance with glass).	

Details	Available versions	• •Walls, optionally equipped with doors. • •Round version. • •Triangular design. • •Trapezoidal design. • •Oval design. • •Diamond-shaped design. • •Burglary-resistant Class III according to NEN 5096.
	Special mesh	• •Stainless steel mesh. • •Stainless steel insect screen mesh. • •Aluminum mesh.
Order example	When placing an order, please provide the following information:	
	Quantity	2
	Type	BV-50
	Dimensions	1000 x 500 mm (W x H)
	Details	Masonry-mounted frame IR
		2-layer powder coating RAL-7011
	Shipping address	Including ZIP code and contact person

Installation examples

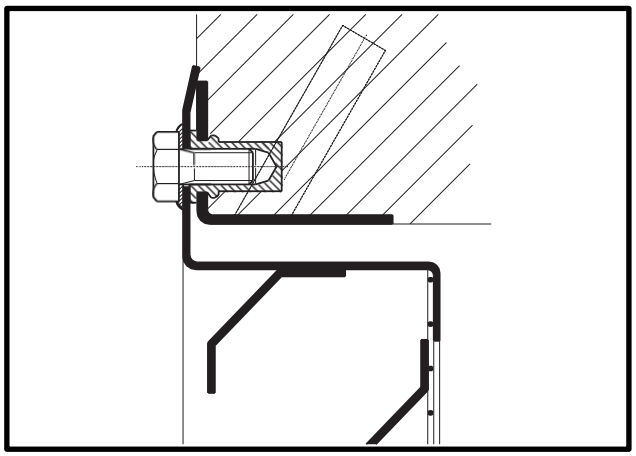


Figure 1a: Type BV-70 with IR masonry frame

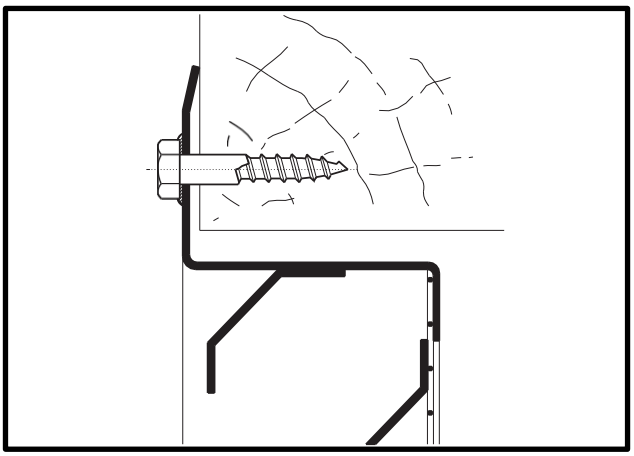


Figure 2a: Type BV-70 in a wooden subframe

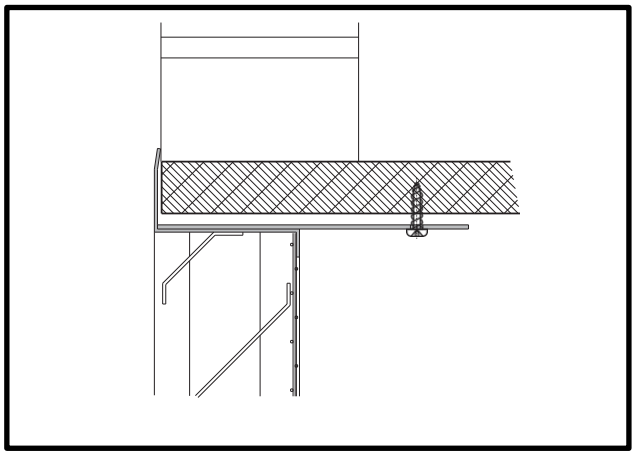


Figure 1b: Mounting using strips on the back

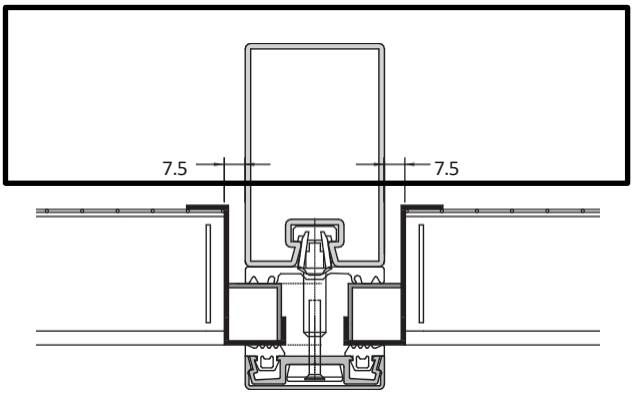


Figure 2b: Mounting in facade/window profile

Divisions

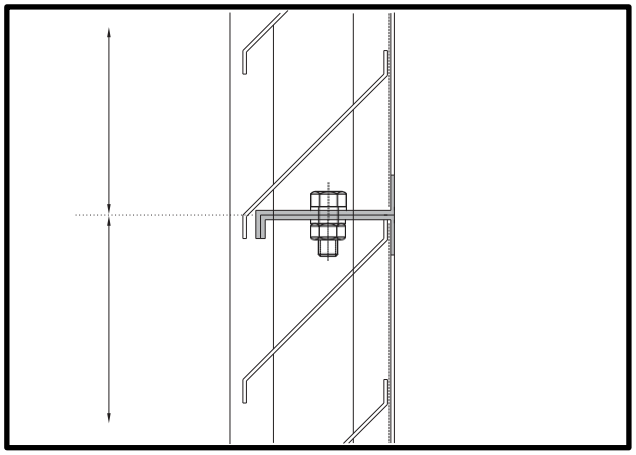


Figure 3: A vertical division

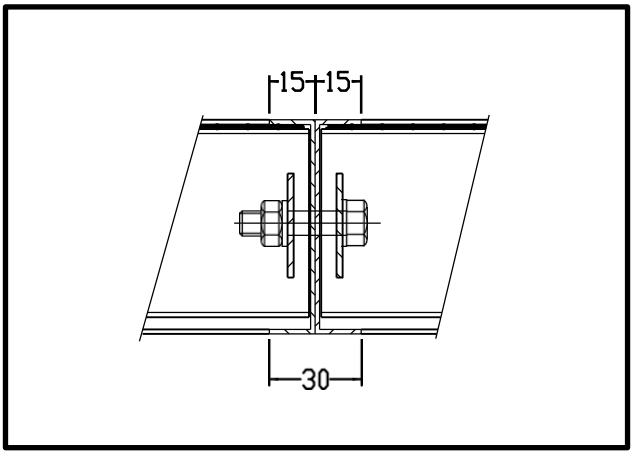
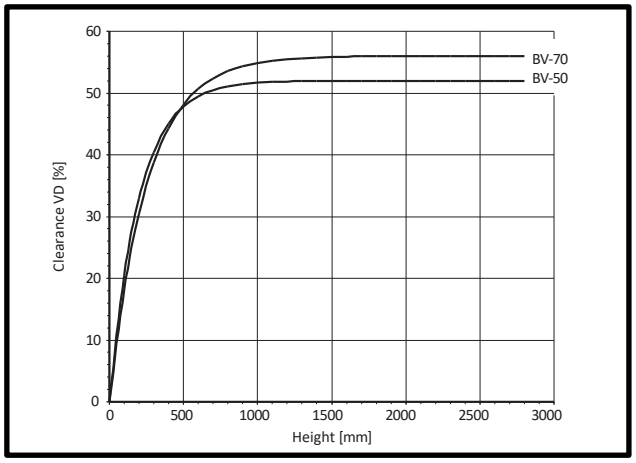


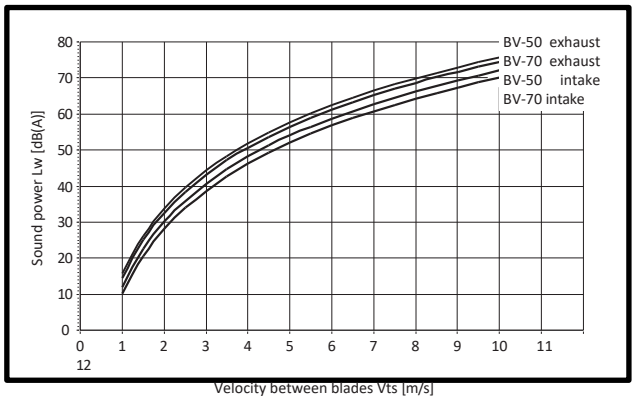
Figure 4: A width division

Graphs



Graph for determining the free area V.D. in %.

The free area V.D. of a grille depends on the height dimension.



Graph for determining sound power L_w in dB(A).

The graph shown here illustrates the relationship between the air velocity between the blades V_{ts} and the sound power L_w, based on an inflow area A = 1 m².

The relationship between the inflow velocity V_{as} and the velocity between the blades is given by:

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

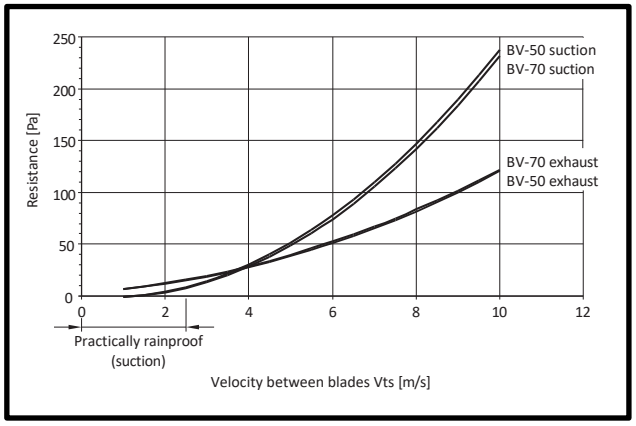
$$V_{as} = \frac{\varnothing\ [m^3/s]}{B[m] * H[m]} \quad [m/s] \qquad (2)$$

For inflow areas other than 1 m^2, the measured value for Lw must be corrected using the correction factor C according to the table below, where:

A = B × H

A [m²]	0.5	1	1.5	2	2.5	3	3.5	4
C	-3	0	+1.8	+3	+4	+4.8	+5.4	+6

$L_{WC} = L_W + C$



Graph for determining the resistance in Pa.

The adjacent graph shows the relationship between the air velocity between the blades V_{ts} and the resistance. V_{ts} can be determined using formulas (1) and (2). The resistance is determined for grilles connected to an air duct system.

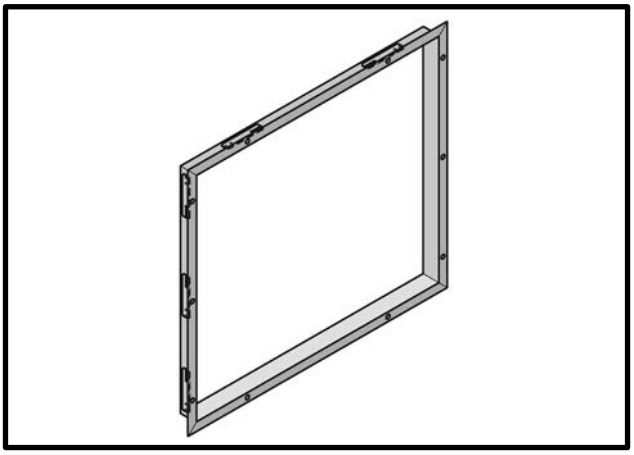
When the grilles are not directly connected to an air duct system, the resistance may be significantly lower, depending on the situation.

(The tested grille is mounted at a height of 1135 mm; grille dimensions 800 × 800 mm).

Options

Masonry frame IR

- Corner profile 40 x 30 x 2 mm.
- Supplied with all-around masonry anchors and M8 blind rivet nuts.
- Sendzimir galvanized sheet.
- DX51D Z275-MA grade.



Combination examples

The galvanized outdoor air grilles can be combined with the following products:

- Drip pans.
- Damper registers.
- Self-closing dampers.
- (Flat) filters.
- Fire Block.