Roof cowls and shaft cowls

Roof cowl DK-2

Roof cowl DK-2-recessed

Roof cowl DK-3

Roof cowl DK-2/3

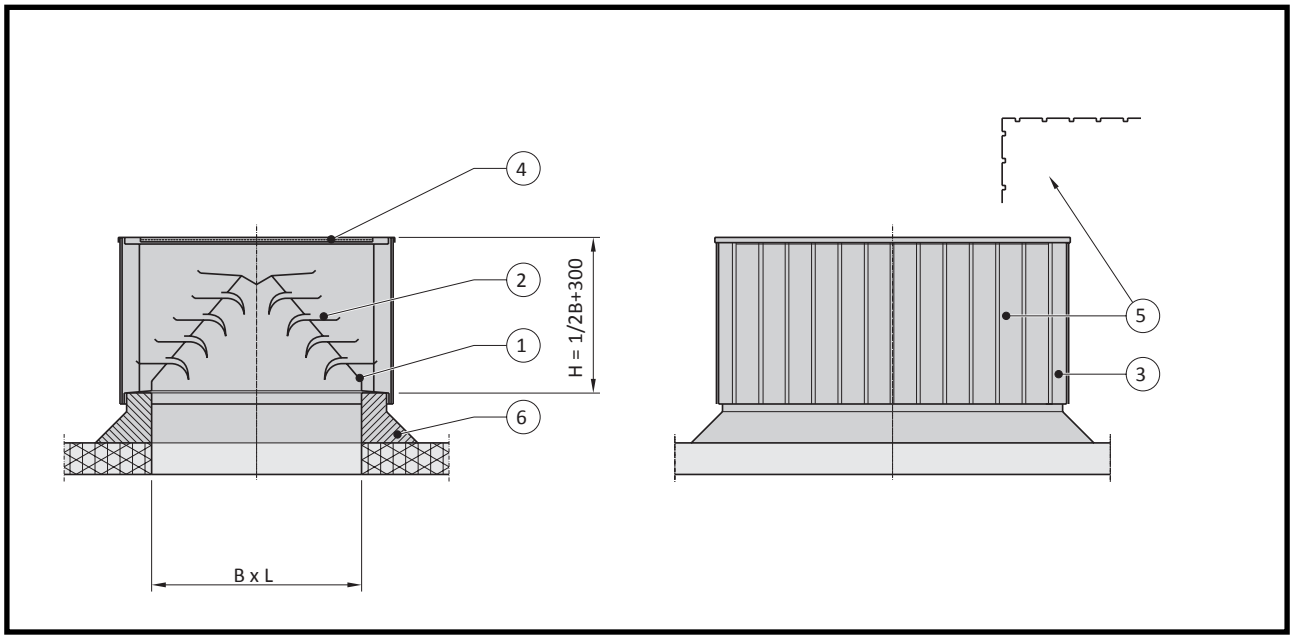
Shaft cowl SK-1

Recessed roof cowls in pitched (tiled) roofs

DK-2VP

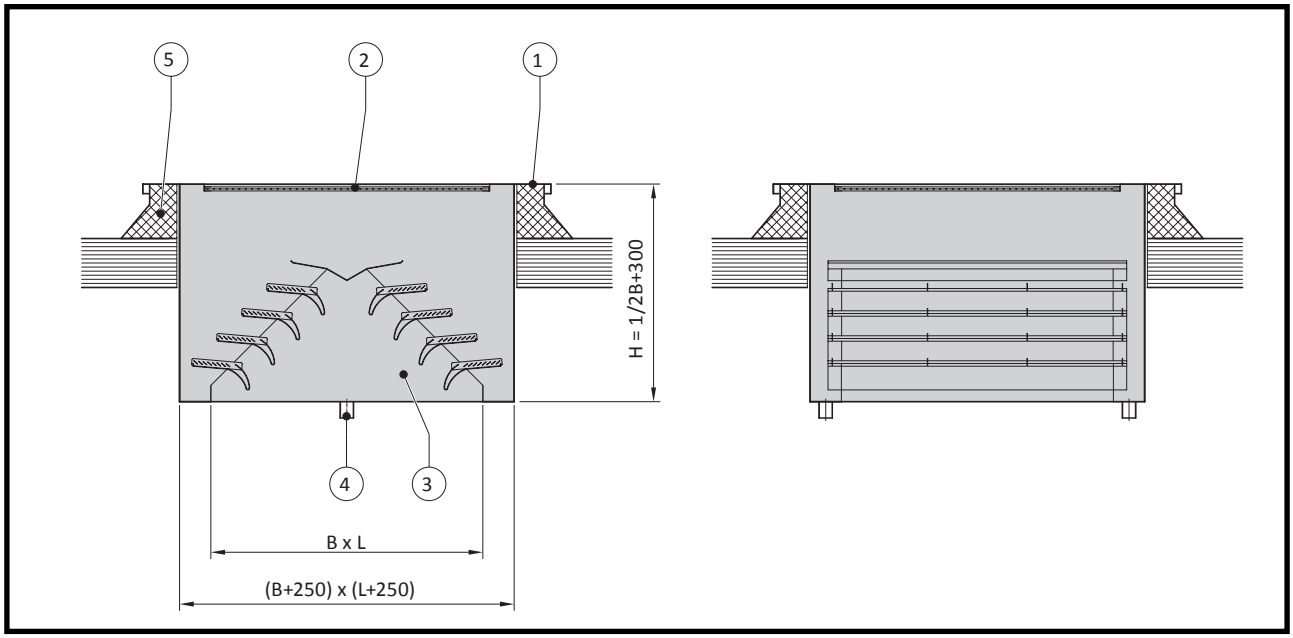
BV-70VP

Type DK-2



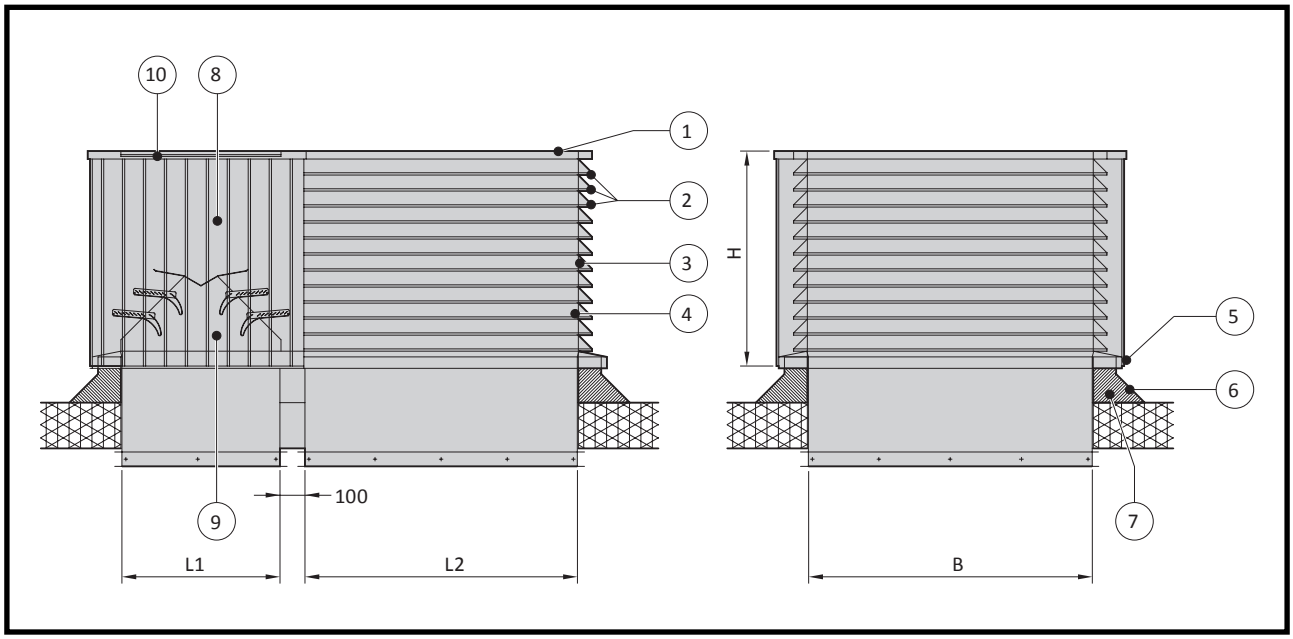
1 Basic frame
2 Rain collection element
3 Frame
4 Mesh grille
5 Aluminium side plate
6 Curb

Type DK-2-recessed



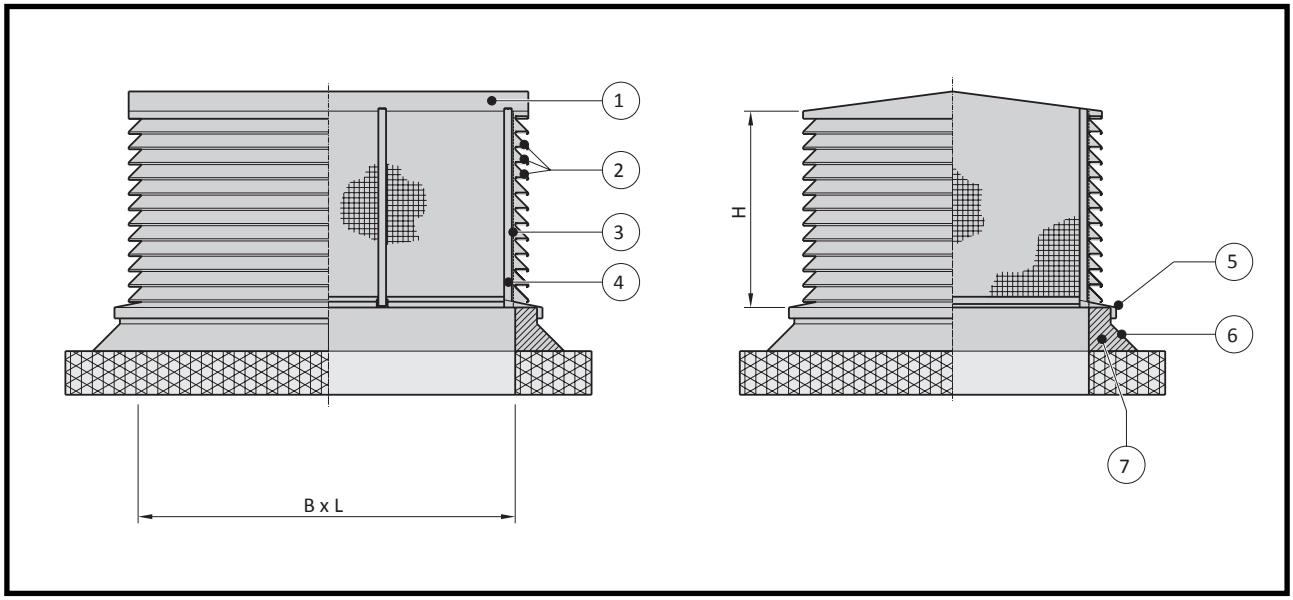
1 Beam flange
2 Mesh grille
3 Rain collection element
4 Drainage point
5 Curb

Type DK-2/3



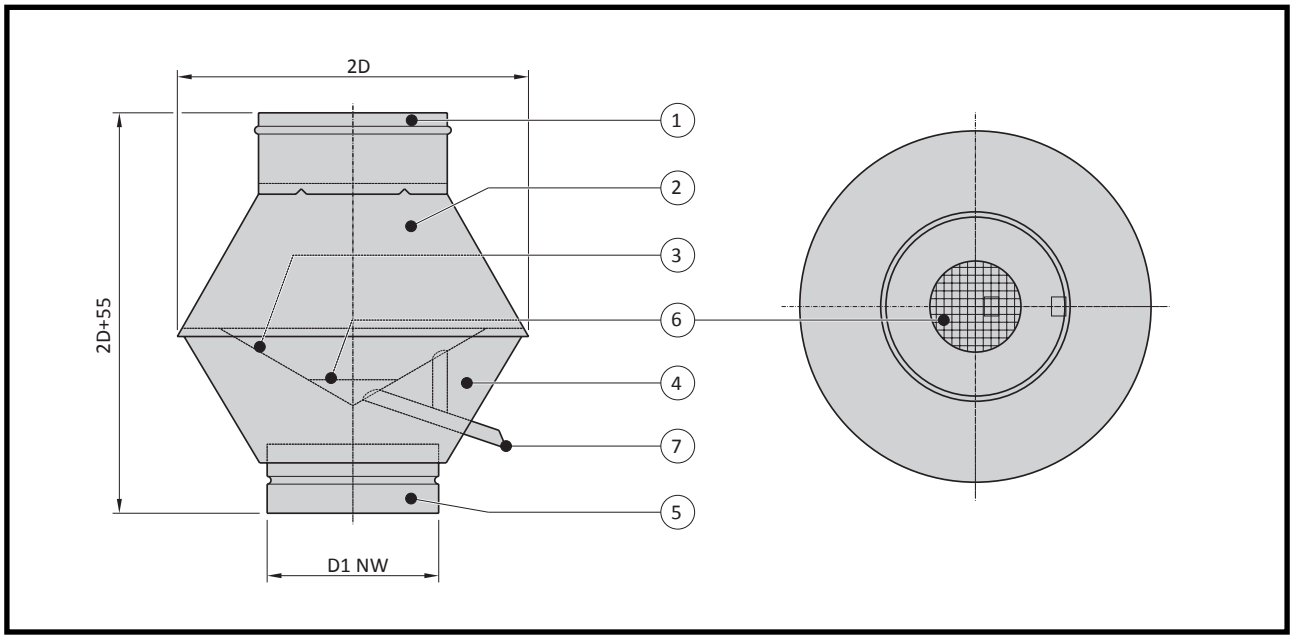
1	Roof	4	Frame	7	Curb	10	Mesh grille
2	Slats	5	Basic frame	8	Aluminium side plate		
3	Mesh grille	6	Roofing	9	Rain collection element		

Type DK-3



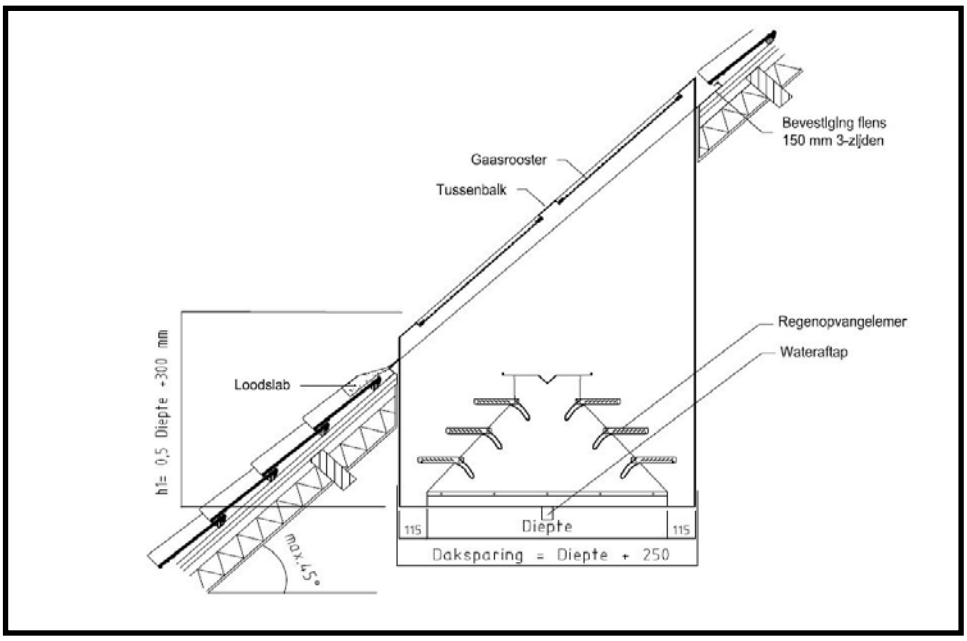
1	Cover	3	Mesh grille	5	Basic frame	7	Curb
2	Slats	4	Frame	6	Roofing		

Type SK-1

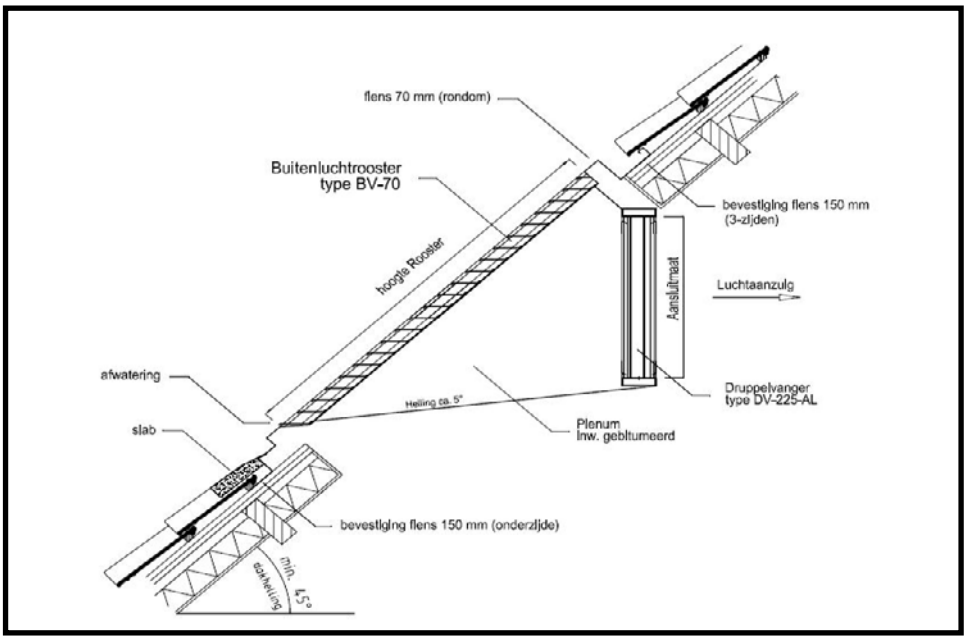


1 Upper shaft
2 Upper cover
3 Funnel with drainage pipe and overflow protection
4 Bottom cover
5 Bottom shaft
6 Dirt trap grille
7 Water drainage

DK-2VP



BV-70VP



Specifications roof cowls

Application	Rainproof cover of roof ducting for natural or mechanical building ventilation.	
Advantages	• DK-2:	In case of air exhaust the exhaust air is vertically extracted.
	• DK-2,SK-1:	In case of air intake colder air is drawn in from just above the roof surface, and not warm air.
	• DK-2-verzonken:	Air supply or exhaust when the admissable height on the roof is limited
	• DK-3:	Horizontally supplying or discharching air.
	• DK-2/3:	Supplying or discharching combined air through 1 cover, with a small risk of short-circuit.
Dimensions	Technically all dimensions are possible. However, there is a minimum of 400 x 400 mm (B x L).	
Version	Type DK-2	• Basic frame. • Rain collection element. • Frame. • Mesh grille. • Aluminium side-plate.
	Type DK-2-recessed	• Rain collection element. • Frame. • Mesh grille. • Beam flange on top side. The cover also has 2 water drainage points with a diameter of 50 mm that must depressurised be connected to the rainwater discharge. Please note: with this type the corresponding curb must be 250 mm bigger than the width and length measurement of the cover.
	Type DK-3	• Basic frame. • Cover (the four sides consist of extruded alumium slat profiles). • Grille of spot welded gauze
	Type DK-2/3	• Combination of a DK-2 and a DK-3 roof cowl, whereby the DK-3 cowl is open on 3 sides.
Material	Sheet metal	• Aluminium sheet, quality EN AW-5754 H12/ H22..
	Profiles	• Extruded aluminium, quality EN AW 6060T66,F22
Post-treatments	• By default the visible parts are powder-coating from the outside (single-layer, RAL7035) by means of polyester powder, T.G.I.C. free. • The visible parts can be powder-coated on the outside with polyester powder (T.G.I.C. free) in a RAL colour to be specified. A single-layer layer is 60 to 80 micrometer thick. A double-layer is at least 90 micrometer thick. A guarantee with gradual reduction on powder-coating is to be consulted. • Cover can be deliverd without post-treatment for post-treatment by third parties.	

Construction	The roof cowls Type DK-2 and DK-2-recessed contain a rain collection element integrated that collects water at the lowest possible air resistance. The incoming rainwater is discharged by the rain collection element into the roof (DK-2) or a drainage point (DK-2-recessed). De air is taken in vertically or discharged, depending on whether the roof cowl for air supply or discharge is being applied. The cowls' sides are completely closed by means of aluminium sheeting. The opening on the top side is shielded against a.o. birds and leafs by a demountable mesh grille. The roof cowls, type DK-3 consit of a basic frame and a cover, the 4 sides are formed by extruded aluminium slat profiles. The slat profiles are mitre cut on the four corners and firmly attached to each other to obtain a continuous slat line. Behind the slats a grille of spot welded mesh is applied.	
Details	Fitted with shaft cowl with demountable U-frame	
Set-up	The best results are obtained by set-up in open space. Set-up near higher buildings may lead to complaints related to fall winds. In such cases a shielding must be applied on the roof cowl at an adequate height.	
Rainproof	When a Smitsair roof cowl takes in outside air it is practically rainproof to an air velocity in the roof opening of 3 m/s. The roof cowl is rainproof at air velocities of 3-6 m/s. This means that smaller droplets are taken in. With air velocities over 6 m/s also bigger droplets are taken in, therefore air velocities over 6 m/s are discouraged, also with regards to the air resistance.	
Weights	On request.	
Mounting	In the detailed drawings under the header Mounting some mounting examples are included.	
Order example	Please state the following information in your order:	
	Number	
	Type	DK-3
	Dimensions	600 x 800 mm, n=7 slats
	Details	Incl. shaft cowl and curb
	Shipping address	Incl. postal code and contact person

Specifications shaft cowl

Application	Rainproof cover of roof ducting for natural or mechanical building ventilation.	
Advantages	• In case of discharge exhaust air is discharged vertically. • When taking in air colder air is taken in and not warm air from just above the roof surface.	
Dimensions	Technically all dimensions are possible. However, there is a minium of approximately 100 mm.	
Version	Type SK-1	• Funnel. • Drainage with overflow protection. • Dirt trap grille.
	Type SK-1/ VV	• White steel sheet, fully galvanised.
	Type SK-1/ AL	• Aluminium, quality EN AW-5754 H12/H22
	Type SK-1/ RVS	• Stainless steel, AISI-304 quality, active ingredient no. 1.4301, combined pickled and passivated.
Material		
Post-treatments	• The visible parts (aluminium version) technically anodised with a layer of 15 - 20 micrometer thick. • The visible parts can be powder-coated on the outside with polyester powder (T.G.I.C. free) in a RAL colour to be specified. A single-layer layer is 60 to 80 micrometer thick. A double-layer is at least 90 micrometer thick. A guarantee with gradual reduction on powder-coating is to be consulted.	
Set-up	The best results are obtained by set-up in open space, for example on a high discharge pipe. Set-up near higher buildings may lead to complaints related to fall winds. In such cases a shielding must be applied on the shaft cowl at an adequate height.	
Weights	On request.	
Details	Possible versions	• Square/rectangular version • Oval version
Order example	Please state the following information in your order:	
	Number	1
	Type	SK-1/VV
	Dimensions	∅ 400 mm
	Details	Sprayed in RAL-7011
	Shipping address	Incl. postal code and contact person

Specifications recessed roof cowls in pitched (tiled) roofs

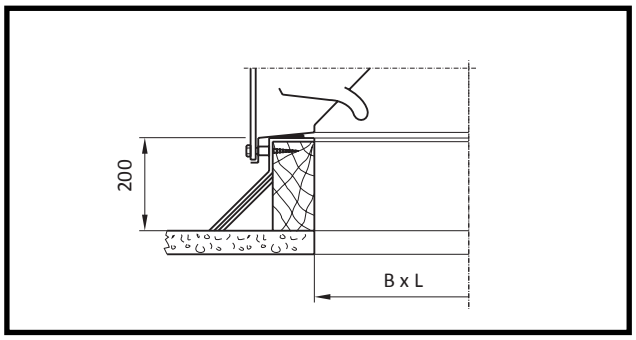
Application	Rainproof cover for air vents in pitched roofs, for natural or mechanical ventilation, preferably not to be seen.	
Advantages	Air supply or exhaust when the admissable height on the roof is limited. No curb nor transit shaft is needed.	
Dimensions	DK-2VP	• In fact all dimensions are possible, however, there is a minimum of 400 x 400 mm (B x D). • Suitable for a roof slope 15° to 45°
	BV-70VP	• All dimensions are available in height • and width. • Suitable for a roof slope 45° to 89° • Slat distance grille is 70 mm.
Uitvoering	DK-2VP	• Like DK-2V, but with curved beam flange on top with lead replacing sheet. • Frame/reservoir with 2 discharge points on the bottom with a Ø 50 mm, that must be connected to the rainwater discharge.
	BV-70VP	• Like BV-70, but with a special edge with • a lead replacing sheet on the bottom, and mesh with a rain collection plenum at the rear end that drains itself over the lower slat. of the grille. (no rainwater discharge required) • To avoid rain propagation in case of air suction a drip tray type DV-225 is mounted in the plenum.
Material	DK-2VP	Aluminium sheet, quality EN AW-5754 H12/ H22

	BV-70VP	• Slats, flange edge and plenum
		  • Sendzimir galvanised steel sheet.
		  • Quality DX51D Z275-MA.
		  • 1.5 mm thickness.
		• Mesh
		  • Spot welded galvanised.
		  • 12.7 x 12.7 mm mesh size.
		  • 1 mm wire diameter.
		• Drip tray type DV-225
		  • Aluminium sheet.
		  • Quality EN AW 5754 H12/H22.

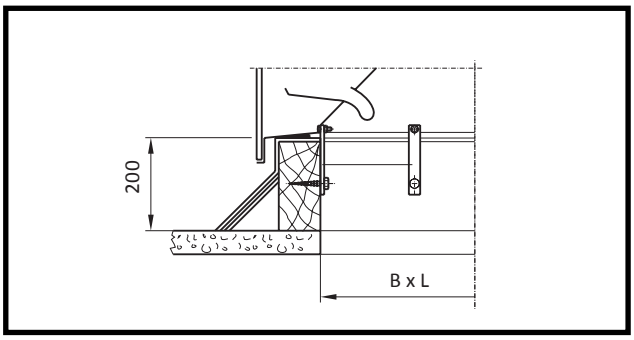
Post-treatments	• By default the visible parts are powder-coated externally, single-layer in RAL-7035, (60 to 80 micrometer), by means of polyester powder, T.G.I.C. free. • By default the plenum of the BV-70PD is bituminised internally. • At extra cost a RAL colour to be specificed is possible, plus a double-layer system with a layer of at least 90 micrometer thick. • Guarantee with gradual reduction on powder-coating against additional charge to be consulted.	

Construction	DK-2VP	• On the inside is a rain collection element that captures water at the lowest possible air resistance. • The incident rainwater is drained to the discharge points by the rain collection element. • The air is sucked in or discharged of from above, depending on whether the roof cowl for air supply or discharge is used. • The cowl's sides are completely closed by means of aluminium sheets. The opening at the top is shielded against birds and leaves by means of a demountable mesh grille.
Rainproof	• Intake: practically rainproof to 3 m/s in connection dimension. • Discharge: practically rainproof.	
Weights	On requests	
Mounting	Screwing on existing roof boarding.	
Order example	Please state the following information in your order:	
	Number	(e.g. 1 piece)
	Type:	(e.g. DK-2VP)
	Dimensions:	(e.g. 600 x 800 mm (BxD))
	Roof pitch:	(e.g. 35°)
	Details:	single-layer powder-coating in RAL-7016.
	Shipping addres:	incl. postal coade and contact person

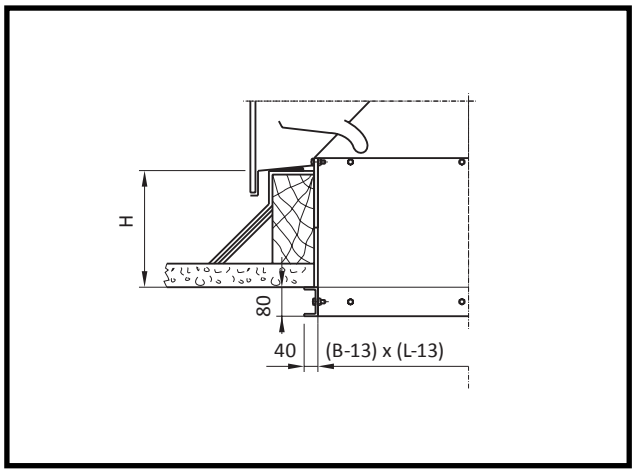
Mounting examples



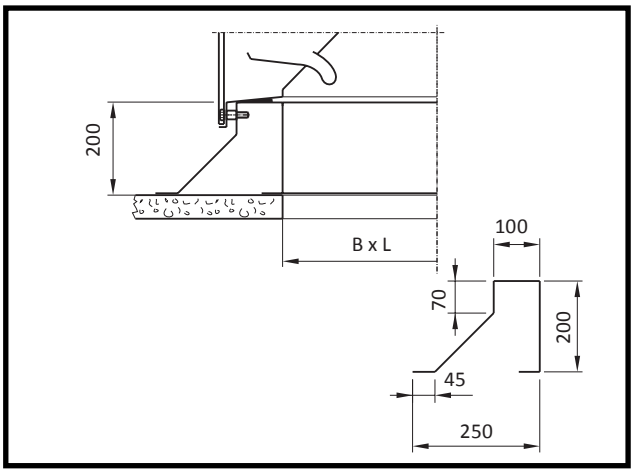
Picture 1: Fitting on the exterior of the roof cowl.



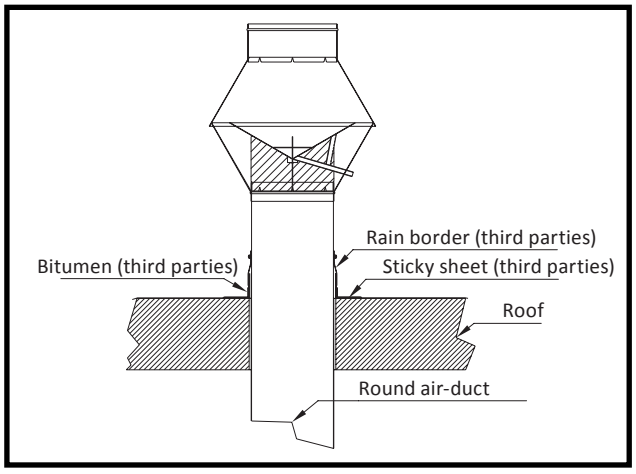
Picture 2: Fitting on the interior of the roof cowl.



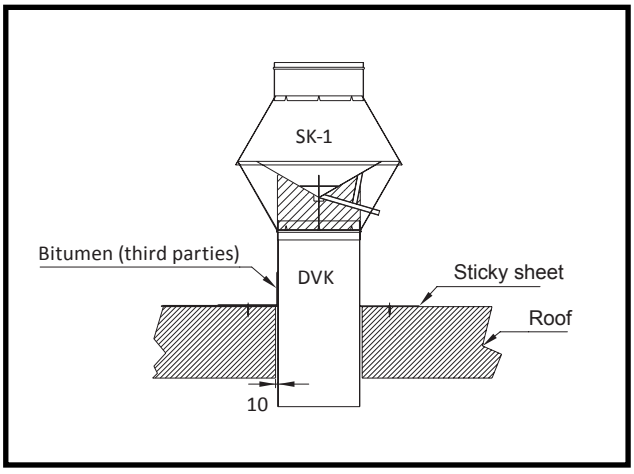
Picture 3: Aluminium roof shaft cowl with demountable U-frame.



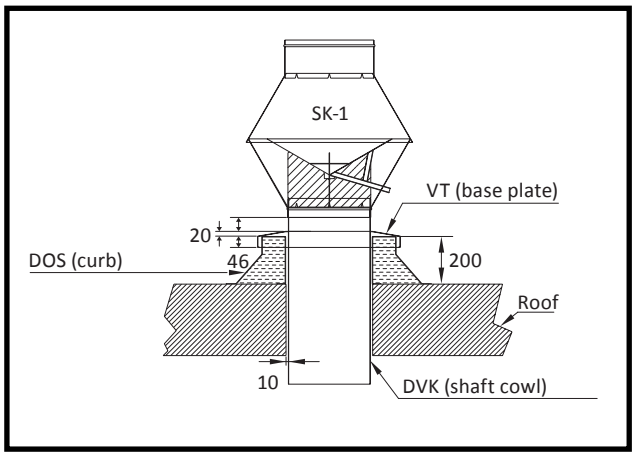
Picture 4: Aluminium curb as a replacement for a constructional roof filling.



Picture 5 SK-1 on roof on pipe from roof



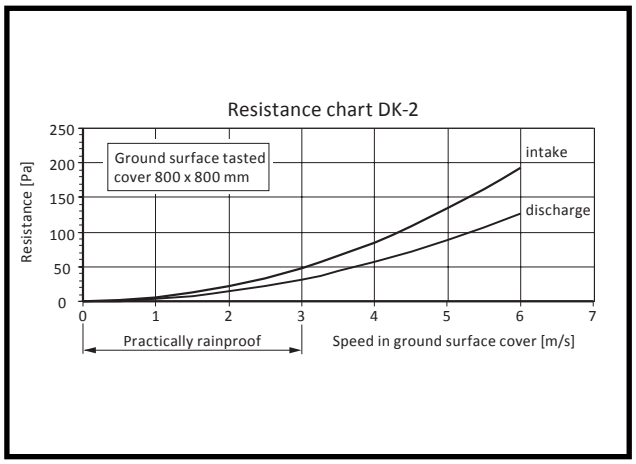
Picture 6 SK-1 with sticky sheet and shaft cowl.



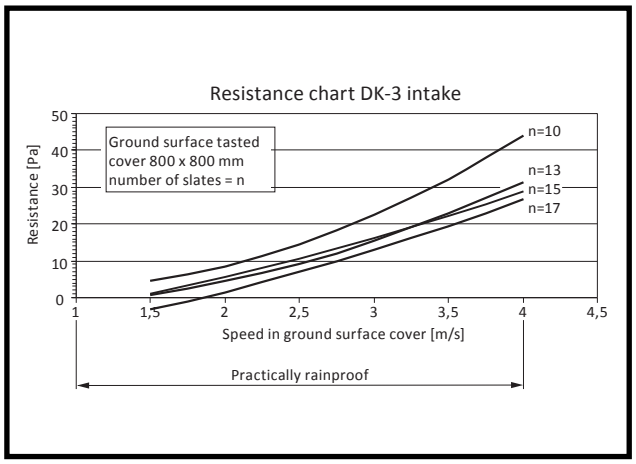
Picture 7 SK-1 + DVK + base + DOS

Charts

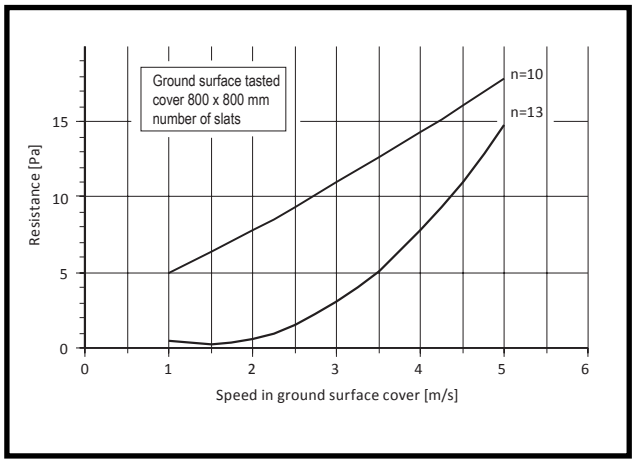
Air resistance type DK-2

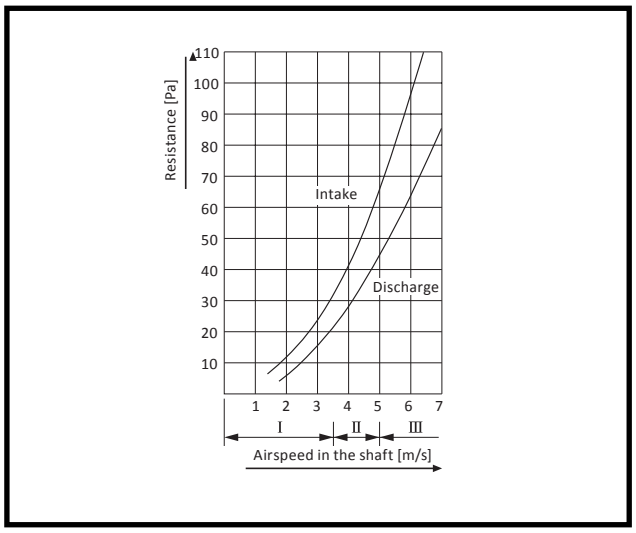


Air resistance Type DK-3 intake



Air resistance type DK-3 discharge





Air resistance type SK-

I = Practically rainproof
II = Rainscreen = 80-85% rainproof
III = Not-rainscreen

} upon taking in

Options

Combination examples

Curbs type DK-2, DK-2-recessed, DK-3 and DK-2/ 3 can be combined with the following products:

- Multileaf dampers
- Self-closing valves in case of air exhaust
- Sound absorbers
- Sound attenuators
- Drip trays (DK-3)
- Flat filters (DK-3)