Intake-/ Exhaust air roof hood EKO-HRB

Quick facts EKO-HRB

The EKO-HRB roof hood is intended for use as a intake air or exhaust air roof hood for comfort and industrial installations. The hood is mounted on an EKO-T roof inlet, a round pipe, a concrete pipe base or other foundation of your choice.

- A DesignLane roof hood, in the same series as EKO-HB, EKO-HBJ, EKO-HBF and EKO-HBK.
- Manufactured in Aluzink Az (C4) as standard
- The hood can be customized
- Can be supplied in a powder coated finish
- Available in MagiCad.

Design

The EKO-HRB roof hood consists of circular lamellas with a protection mesh, screwed or pop-riveted to strut to which the roof is also attached. The roof is normally inclined roof (Standard) but is also available in other forms; see the sketches on the next page. The standard hood is made of aluzinc (C4) but is also available in aluminium, copper, stainless steel or painted versions. As standard, HRB is delivered with socket to size 315 and with flange from size 400.

Sizes

The EKO-HRB roof hood is manufactured in sizes from spiral pipes Ø 160 mm upwards. The height of the grille and the number of lamellae is based on the airflow or on the customer's wishes. The gradient of hoods with inclined and conical roof can be varied as desired. The height of the connecting pipe can also be chose as needed based on aesthetic and architectural requirements. The free area is 65% of the total area.

Maintenance

We recommend preventive maintenance of the hood for optimum performance. Check once a year and clean if necessary.

How to order EKO-HRB

Intake-/ Exhaust air roof hood EKO-HRB-A-B-C-D-E

A – Size
O x H See size table

B – Roof forms
1 = Conical roof
2 = Inclined roof (Standard)
3 = Flat roof

C – Material
1 = Aluzink (C4)
2 = Aluminium
3 = Copper
4 = Stainless steel EN 1.4404
5 = Magnelis (C5)

D – Surface treatment
1 = Untreated
2 = Powder coated (State RAL-colour)

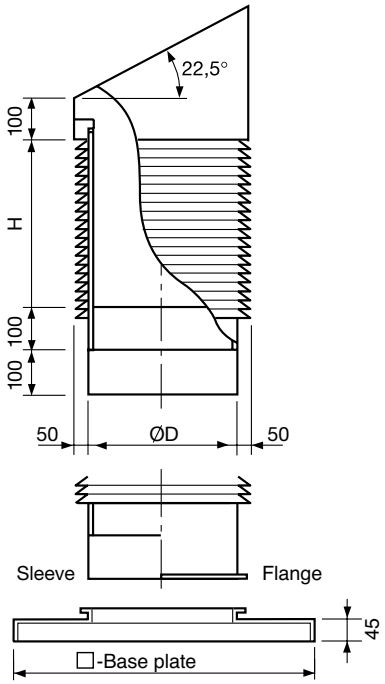
E – Accessories
1 = Without accessories
2 = With base plate

Example: EKO-HRB-1000x800-2-1-1-2

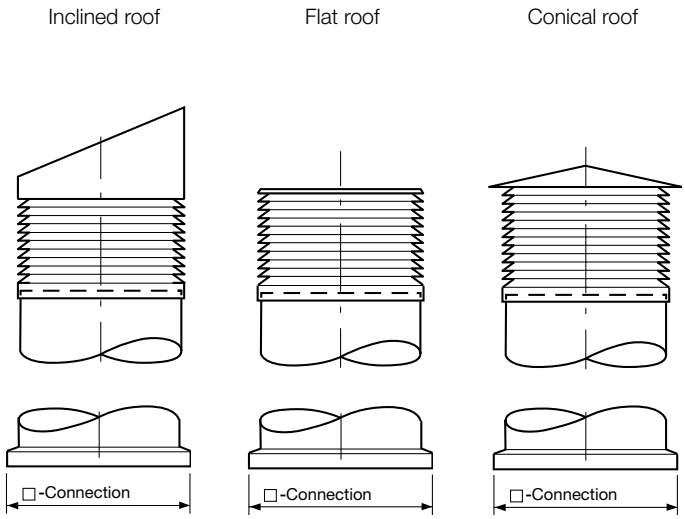
Alternative designs/sizes are stated in plain text

Technical data EKO-HRB

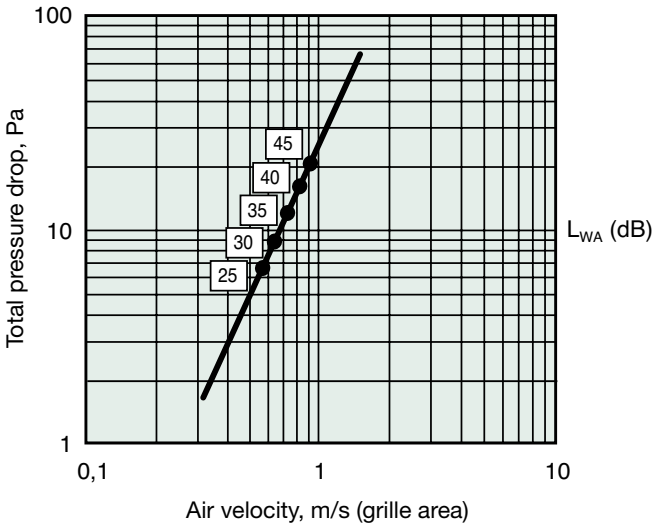
Dimensions



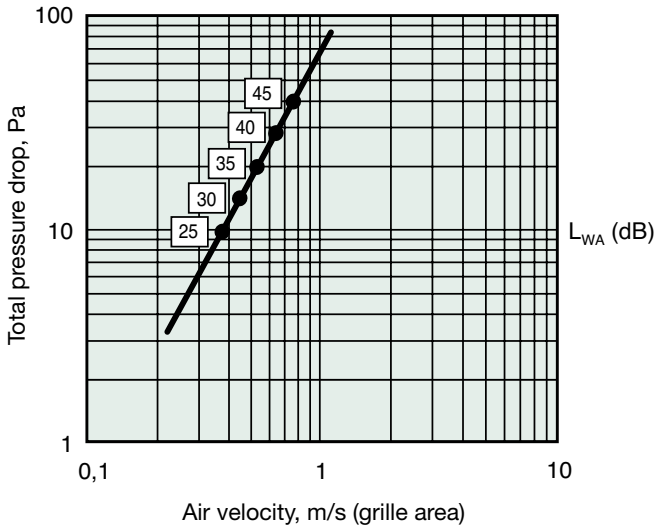
Examples of roof forms



Dimensioning diagram – Exhaust air



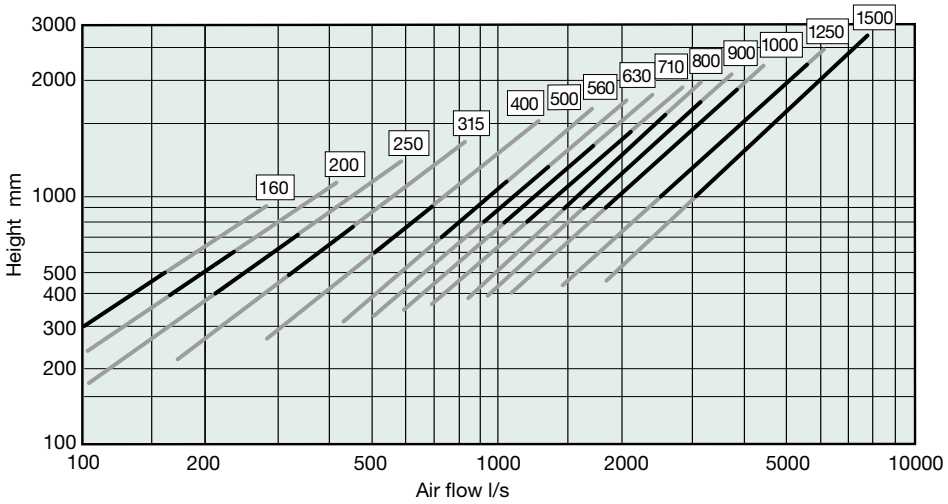
Dimensioning diagram – Intake air



Example calculation of sound power level L_{WAKORR}
EKO-HRB 500 x 800 Air flow 800 l/s

v = 800 / 1000 / 1.26 = 0.63
In the dimensioning diagram - exhaust air, is read 45 dB och 22 Pa.
L_{WAKORR} = 45 + 3 (K1) = 48 dB

Recommended height (roof hood)



The air flow is based on an air velocity of 1.0 m/s over the grille. This is so that the air speed over the connection area will not be too high. The free area is approx. 65% of the grille area.

Black lines indicate the recommended heights.

Grille area EKO-HRB m²

	Size													
Height	160	200	250	315	400	500	560	630	710	800	900	1000	1250	1500
300	0,15													
400	0,20	0,25	0,31											
500	0,25	0,31	0,39	0,49										
600		0,38	0,47	0,59	0,75									
700			0,55	0,69	0,88	1,10								
800				0,79	1,00	1,26	1,41	1,59	1,80					
900					1,13	1,41	1,58	1,78	2,02	2,26	2,54	2,83		
1000						1,57	1,76	1,98	2,25	2,51	2,83	3,14	3,93	4,71
1100						1,73	1,93	2,18	2,47	2,76	3,11	3,45	4,32	5,18
1200							2,11	2,38	2,69	3,01	3,39	3,77	4,71	5,65
1300								2,58	2,92	3,27	3,67	4,08	5,10	6,12
1400									3,14	3,52	3,96	4,40	5,50	6,59
1500										3,77	4,24	4,71	5,89	7,07
1600										4,02	4,52	5,02	6,28	7,54
1700											4,80	5,34	6,67	8,01
1800												5,65	7,07	8,48
1900												5,97	7,46	8,95
2000													7,85	9,42
2100													8,24	9,89
2200													8,64	10,36
2300													9,03	10,83
2400														11,30
2500														11,78
2600														12,25
2700														12,72
2800														13,19

Exhaust- and exterior air

Correction of sound power level L_{WAKORR} for different sizes. $L_{WAKORR} = L_{WA} + K_1$

Height	Size													
	160	200	250	315	400	500	560	630	710	800	900	1000	1250	1500
300	-6													
400	-5	-4	-3											
500	-4	-3	-2	-1										
600		-2	-1	0	1									
700			0	1	2	3								
800				1	2	3	4	4	5					
900					3	4	4	5	5	6	6	7		
1000						4	5	5	6	6	7	7	8	9
1100						5	5	6	6	7	7	8	9	9
1200							6	6	7	7	8	8	9	10
1300								6	7	7	8	8	9	10
1400									7	8	8	9	10	10
1500										8	9	9	10	11
1600										8	9	9	10	11
1700											9	10	11	11
1800												10	11	12
1900												10	11	12
2000													11	12
2100													11	12
2200													12	12
2300													12	13
2400														13
2500														13
2600														13
2700														13
2800														13

Exhaust air

Correction of sound power level L_{WAOK} in octave bands. $L_{WAOK} = L_{WAKORR} + K_{OK}$

Octave band	63	125	250	500	1K	2K	4K	8K
K_{OK}	-3	+2	-1	-3	-4	-9	-21	-26

Exterior air

Correction of sound power level L_{WAOK} in octave bands. $L_{WAOK} = L_{WAKORR} + K_{OK}$

Octave band	63	125	250	500	1K	2K	4K	8K
K_{OK}	-4	-4	-5	-9	-5	-5	-13	-20