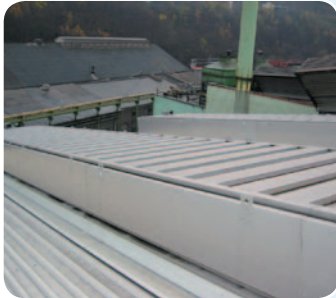


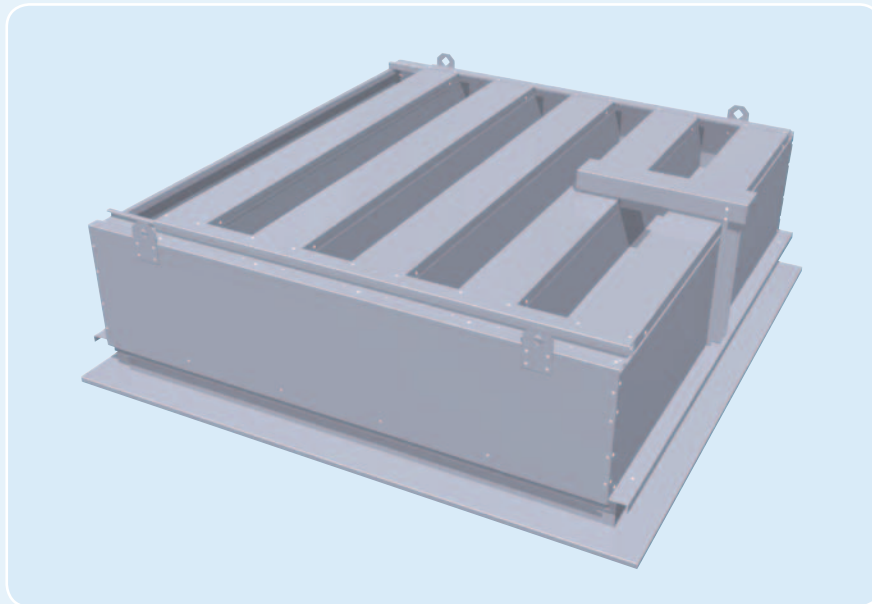


Brakel® Microlab



Continuous natural air extraction

The labyrinthine Brakel® Microlab is a continuous weatherproof natural roof ventilator, specially designed for industrial spaces where permanent high internal heat loads must be extracted. The maintenance-friendly labyrinth structure can be fitted with a closable section so that for instance no unwanted energy loss occurs during downtime. Adding sound baffles can realise the required noise damping.



High aerodynamic air passage

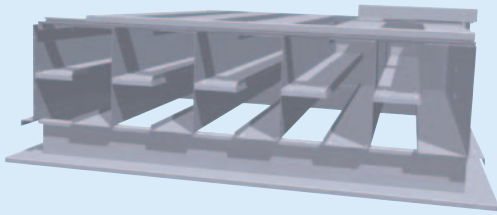
By means of 3D design techniques, the Microlab achieves an optimum aerodynamic air passage for maximum performance.

The Microlab can be supplied in two different versions for height and air passage:

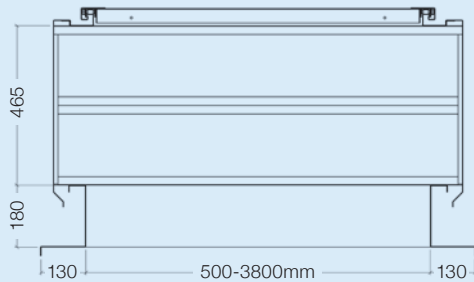
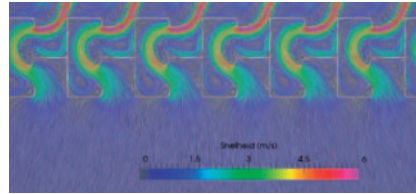
- Brakel® Microlab (straight louvre structure/H=645 mm/ $C_{vw} = 0.31$)
- Brakel® Microlab Plus (oblique louvre structure/H=820 mm/ $C_{vw} = 0.52$)

Versions

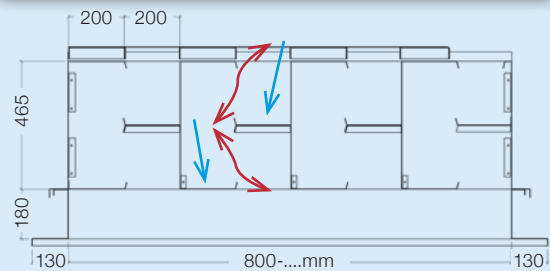
Microlab



- Straight louvre structure
- Height 645 mm
- C_v value: - no cross wind influence: $C_{v0} = 0.19$
- with cross wind influence: $C_{vw} = 0.31$

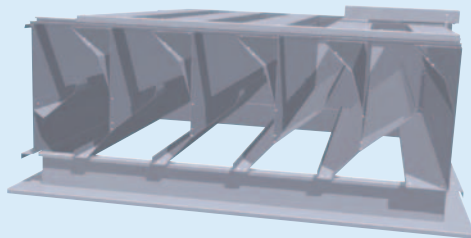


Cross section

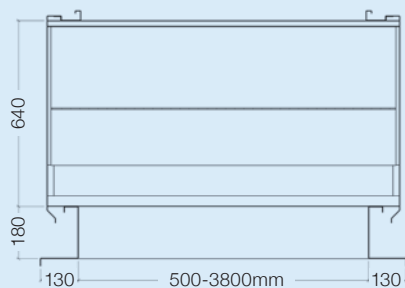
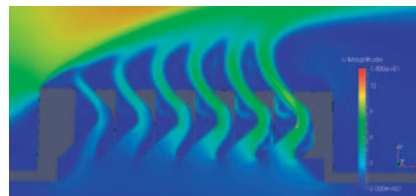


Longitudinal section

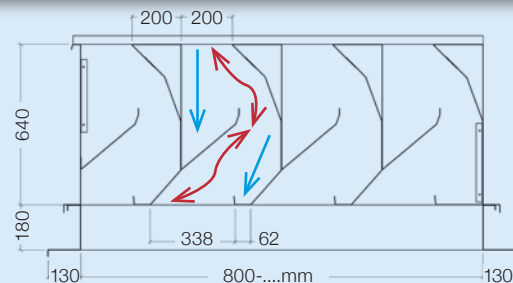
Microlab Plus



- Oblique louvre structure
- Height 820 mm
- C_v value: - no cross wind influence: $C_{v0} = 0.28$
- with cross wind influence: $C_{vw} = 0.52$



Cross section



Longitudinal section

Specifications

Type	Size	Geometric surface	MICROLAB			MICROLAB PLUS		
			Aerodynamic surface *)	Weight in kg		Aerodynamic surface *)	Weight in kg	
			A_a in m ²	Without closable section	With closable section	A_a in m ²	Without closable section	With closable section
50- 80	500 x 800	0.40	0.12	21	31	0.21	28	36
50-120	500 x 1200	0.60	0.19	30	41	0.31	39	48
50-160	500 x 1600	0.80	0.25	38	50	0.42	49	60
50-200	500 x 2000	1.00	0.31	46	60	0.52	60	72
50-240	500 x 2400	1.20	0.37	55	70	0.62	71	85
100- 80	1000 x 800	0.80	0.25	30	41	0.42	40	50
100-120	1000 x 1200	1.20	0.37	41	54	0.62	55	67
100-160	1000 x 1600	1.60	0.50	52	67	0.83	70	84
100-200	1000 x 2000	2.00	0.62	63	81	1.04	84	101
100-240	1000 x 2400	2.40	0.74	75	94	1.25	99	117
150- 80	1500 x 800	1.20	0.37	39	51	0.62	53	64
150-120	1500 x 1200	1.80	0.56	53	68	0.94	71	85
150-160	1500 x 1600	2.40	0.74	67	85	1.25	90	107
150-200	1500 x 2000	3.00	0.93	80	101	1.56	109	129
150-240	1500 x 2400	3.60	1.12	94	118	1.87	127	150
200- 80	2000 x 800	1.60	0.50	47	61	0.83	65	78
200-120	2000 x 1200	2.40	0.74	64	82	1.25	88	104
200-160	2000 x 1600	3.20	0.99	81	102	1.66	110	130
200-200	2000 x 2000	4.00	1.24	97	122	2.08	133	157
200-240	2000 x 2400	4.80	1.49	114	142	2.50	156	183
250- 80	2500 x 800	2.00	0.62	56	72	1.04	77	92
250-120	2500 x 1200	3.00	0.93	76	95	1.56	104	123
250-160	2500 x 1600	4.00	1.24	95	119	2.08	131	154
250-200	2500 x 2000	5.00	1.55	114	143	2.60	157	185
250-240	2500 x 2400	6.00	1.86	134	167	3.12	184	216
300- 80	3000 x 800	2.40	0.74	65	82	1.25	90	106
300-120	3000 x 1200	3.60	1.12	87	109	1.87	120	142
300-160	3000 x 1600	4.80	1.49	109	136	2.50	151	177
300-200	3000 x 2000	6.00	1.86	131	164	3.12	182	213
300-240	3000 x 2400	7.20	2.23	154	191	3.74	212	249
350- 80	3500 x 800	2.80	0.87	74	92	1.46	102	120
350-120	3500 x 1200	4.20	1.30	99	123	2.18	137	160
350-160	3500 x 1600	5.60	1.74	124	154	2.91	171	201
350-200	3500 x 2000	7.00	2.17	148	184	3.64	206	241
350-240	3500 x 2400	8.40	2.60	173	215	4.37	240	282
380- 80	3800 x 800	3.04	0.94	79	98	1.58	110	128
380-120	3800 x 1200	4.56	1.41	106	131	2.37	147	171
380-160	3800 x 1600	6.08	1.88	132	164	3.16	184	215
380-200	3800 x 2000	7.60	2.36	159	197	3.95	221	258
380-240	3800 x 2400	9.12	2.83	185	230	4.74	257	301

Width dimension	Min. 500 mm – max. 3800 mm <i>All intermediate widths possible</i>		
Length dimension	Min. 800 mm – no maximum <i>Sections are supplied fully assembled and can be connected lengthwise</i>		
*) Aerodynamic surface ($A_a = A_v \times C_{vw}$)	C_v value	MICROLAB	MICROLAB PLUS
	No cross wind influence (C_{v0})	0.19	0.28
	With cross wind influence (C_{vw}^{-1})	0.31	0.52 ¹⁾
¹⁾ C_{vw} = measured under the influence of a headwind and dependent on the size of the ventilator			
²⁾ If the ventilator is to be placed with tailwind, then $C_{vw} = 0.59$ can be used for the calculation			

Application

Suitable for roof application.

Material

Hardened single-walled aluminium, seawater and corrosion resistant AlMg3. Weather-resistant brush seal for the aluminium closable section.

Versions

Microlab: single-walled aluminium with straight louvre structure

Microlab Plus: single-walled aluminium with oblique louvre structure

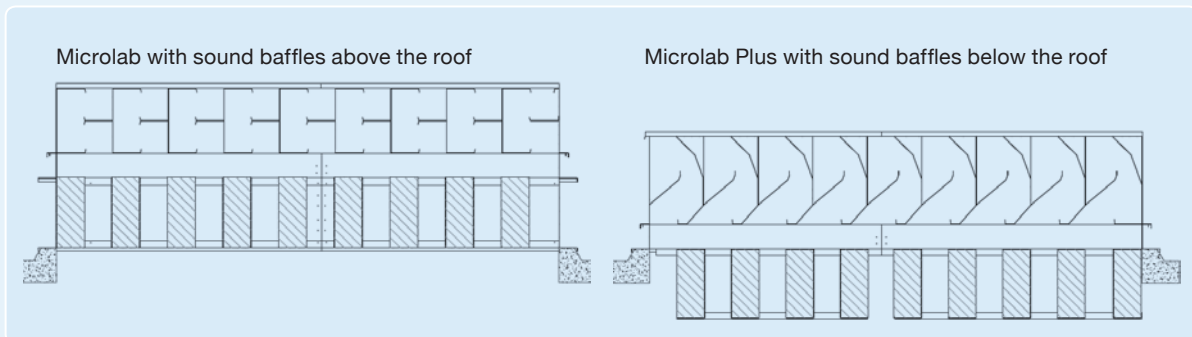
Closable section

To prevent heat loss, when undesirable, the Microlab can be fitted on top with a maintenance-free layered closable section. The closable section can be supplied with or without brushes. The brush finish increases the sealing properties of the Microlab.

Sound baffles

The Microlab can be fitted with sound baffles above or below the roof in order to damp noise from the inside to the outside, or vice versa. The sound baffles are 200 mm wide. The damping values for the various baffle heights (R_w in dB) are shown below. Customised versions on request.

		FREQUENCY (IN HZ)						R_w (dB)
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	
Without sound baffles	Without closable section	2.2	4.6	8	10.7	11	11.5	10
	With closable section	6	12	12.4	15.4	17.1	17.6	15
With sound baffles (without closable section)	Height = 500 mm	5	11	13	14	13	11	14
	750 mm	5.5	13.5	17	19	17	13	18
	1000 mm	6	16	21	23	21	15	21
	1250 mm	7	19	24	27.5	24	16.5	25
	1500 mm	8	21.5	27	32	27	18	27



Operation

P2 double-acting compressed air control

M motor control 24V or 230V

Finish

The Microlab is standard untreated, and on request can be supplied anodised or enamelled in any required RAL colour.

Accessories

- Removable side walls for cleaning
- Sound baffles

Installation

The fully assembled sections are fitted standard with eye bolts and connecting pieces to facilitate easy assembly.

