

UNILAB - TSL

Natural Labyrinth Ventilators

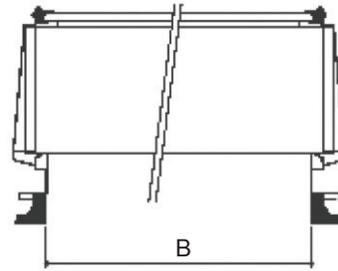
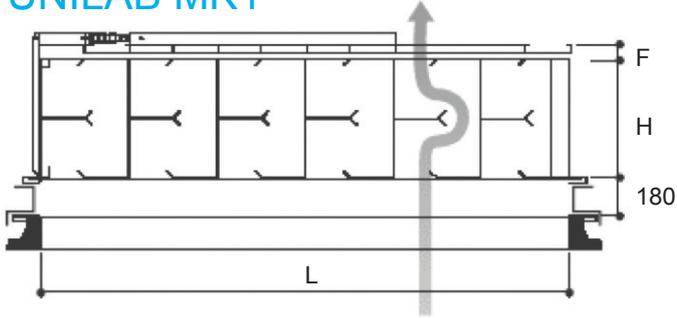


- Sound attenuated energy efficient air extraction.
- Weathered natural ventilation.
- High capacity continuous ventilation.

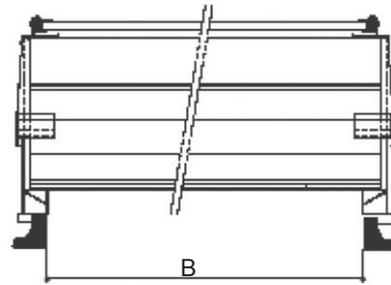
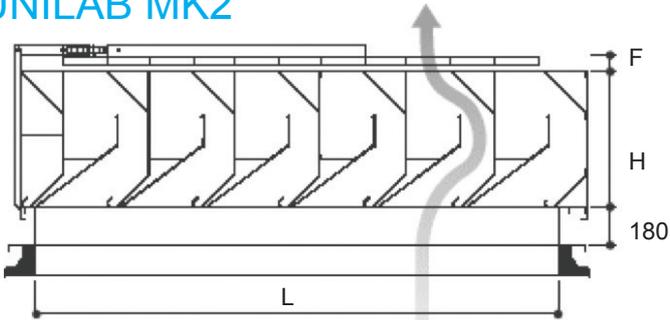


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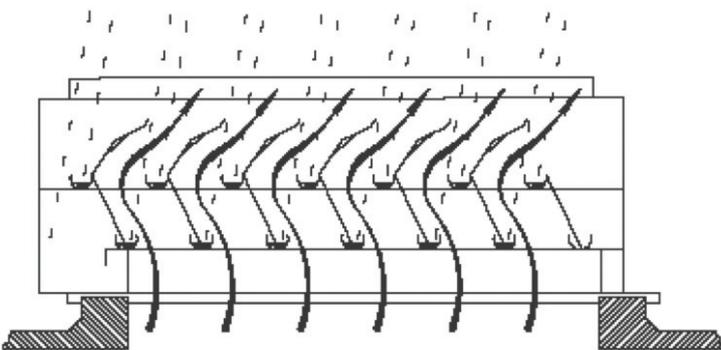
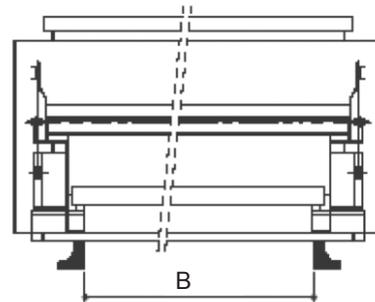
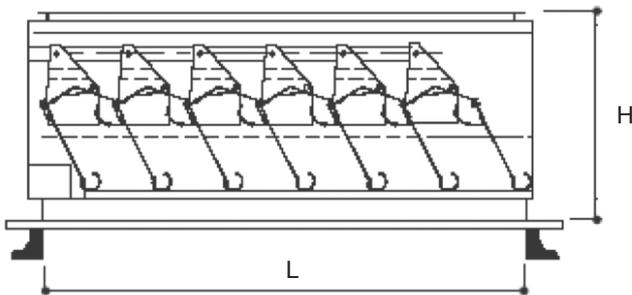
UNILAB MK1



UNILAB MK2



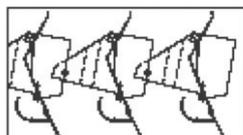
TSL



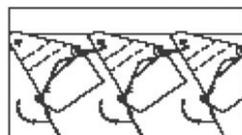
TSL in Rain Mode



Closed



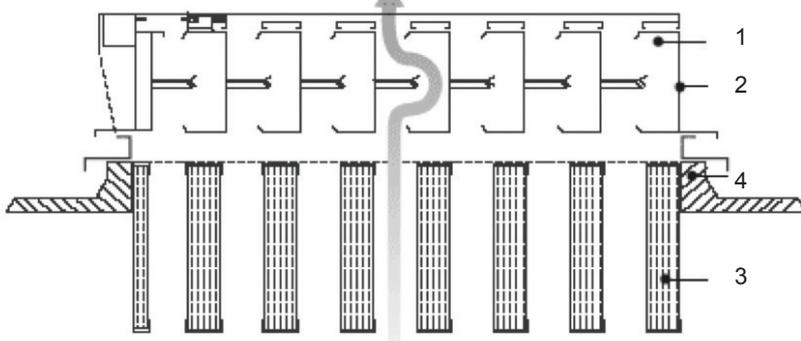
Fully open



Open in weather protected mode

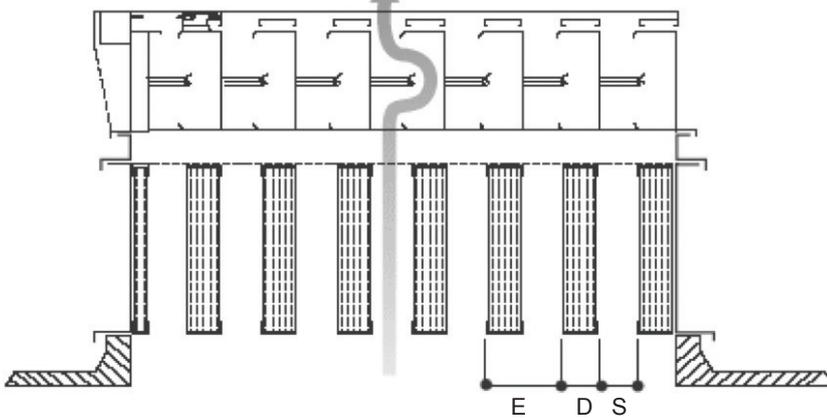
Sound attenuator

Attenuator Box below roof line



1. Operable sliding damper unit
2. Labyrinth box
3. Sound attenuator box
4. Roof upstand detail

Attenuator Box above roof line



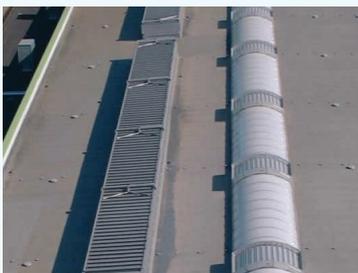
Sizes (mm)	UNILAB - MK1	UNILAB - MK2	TSL
Height (H)	540	642	635
Throat width (B)	500 - 3600	500 - 3600	500 - 3600
Throat length (L)	800 + (nx400)	800 + (nx400)	800 + (nx200)
D	400	400	400
E	200	200	200
F	65	65	-

Length L	Noise reduction in dB per octave band									
	frequency >	63	125	250	500	1000	2000	4000	8000	Rw
500 mm		3,9	5,0	10,8	13,0	14,1	13,4	10,9	11,3	14
750 mm		4,4	5,5	13,5	17,0	18,7	17,2	13,0	13,2	18
1000 mm		4,8	6,0	16,2	20,9	23,3	21,0	15,0	15,1	21
1250 mm		4,6	7,2	18,9	24,1	27,6	24,2	16,6	15,8	25
1500 mm		4,3	8,3	21,5	27,3	31,9	27,3	18,2	16,5	27

Panel Thickness D = 200 mm Space between Attuator panels S = 200 mm

Other attenuator design levels can be accommodated.

UNILAB - TSL



Description

The UNILAB MK1 - UNILAB MK2 and TSL range of labyrinth natural ventilators provides for the extraction of large volumes of warm air and/or smoke in an economic and energy efficient manner. They are specifically intended and designed for industrial applications where weather resistant ventilation must be maintained under all weather conditions. The lightweight, low profile, self supporting ventilators provide the high levels of ventilation required in industries with very high internal heat loads, from solar heat gains plus machinery or other hot production processes, where the hot and possibly contaminated air must still be removed during bad weather conditions, including rain or snow. In many instances the machinery within a building produces high internal noise levels, and sound attenuation to limit or prevent noise breakout for environmental purposes is a requirement for the ventilation system. The labyrinth ventilator construction with its vertical air guide vanes provides a limited level of sound attenuation. This level of protection can be enhanced by the incorporation of purpose designed sound attenuation boxes, to meet any practically achievable design requirements for noise reduction. These attenuation boxes can be mounted above the roofline, or may be recessed into the building where a lower profile is required.

Operating principles

Warm air rises due to thermal convection and large quantities of warm air or smoke can be removed from a building using this natural ventilation principle. The system consumes no electrical power to extract the air and the ventilation effect may be increased by external wind action. The UNILAB range of modular box section ventilators provide large roof openings with high geometric free areas. The boxes are fitted with vertical internal air guide vanes which collect rain water and shed it onto the roof at the base of the ventilator. The drainage system is self cleaning under the action of the water and this operates without any effect on the ventilation performance. The UNILAB MK1 and UNILAB MK2 ventilators can be fitted with top cover sliding "Hit and Miss" type damper sections. The TSL ventilator has an internal pivoting damper system which provides full volume control as required. This design allows an almost unobstructed passage through which the air can flow for maximum aerodynamic performance. The UNILAB MK1 and UNILAB MK2 units can be used as smoke clearance systems after a building fire, and the TSL ventilator is a fully tested and approved fire ventilator.

Applications

- Steelworks
- Glassworks
- Processing plants or other buildings with similar high heat or large volume ventilation requirements.
- Power stations
- Paper Mills

Controls

- Pneumatic operation (open or closed cylinders, operated by compressed air or CO₂ systems).
 - Electrical control 24V DC / 230V AC (controlled by independent remote control panels).
- Also building independent CO₂ and electrical controls are available. Additional control over the rain, wind or other sensors can be supplied as part of an independent control.

Materials

Corrosion-resistant aluminium AlMg3 sheet material - AlMgSi 0.5 sections - stainless-steel fixings.

General

The UNILAB MK1 - UNILAB MK2 and TSL labyrinth ventilators are assembled and delivered in pre-assembled modules and are built up on site, to form ventilators of unlimited lengths. The standard product is supplied in mill finished aluminium but coating in polyester powder paint to any RAL colour selected from the standard range is available. The self-supporting construction of the ventilators makes them suitable for installation onto any type of roof construction. The base flanges are manufactured to match individual project requirements and are fully welded to ensure that they are completely waterproof.

Service

BOVEMA offers a comprehensive service covering the specification and installation of our products.

BOVEMA

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