



Large illustration: AIRSTAR labyrinth ventilator spread along the whole ridge of a factory building.



AIRSTAR with a closed slider



Labyrinth design of the AIRSTAR A2



AIRSTAR with a more compact design

Information about AIRSTAR

The AIRSTAR labyrinth ventilation system is used as a high-performance ventilator in hot and noisy heavy-industry applications when high-volume, rainproof and energy-free ventilation is required, and which, if necessary, is also able to comply with additional noise-insulation regulations. AIRSTAR uses the pressure and temperature difference caused by the thermal load within a building to produce natural ventilation.

Advantages:

- Individually adaptable to all types of building
- Mountable on all common roof designs
- Aerodynamically efficient louvre-blade shape with raised edges in the middle and on the upstream side allows for continuous weatherproof ventilation. The water that accumulates in the louvres is conducted into two drainage channels on the longitudinal edge of the unit and drained off onto the roof.
- The rain-drainage channels consist of wind deflector plates, considerably improving ventilation in inflowing-wind conditions.
- To save energy during shutdown periods, the louvres (optional) can be shut by means of a locking mechanism.
- Additional nylon brushes (optional) on the locking mechanism increase the sealing effect.
- By removing the wind deflector plates, the louvres are easily accessible and can be easily cleaned.
- Due to the flat design and the resulting low windage area, the substructures on the building can be reduced to a minimum.
- Can be fitted with splitter attenuators either on or under the roof
- Good aerodynamic efficiency
- Powder coating allows individual choice of colours
- Plinth mounting using tension locks – no drill holes needed (optional)
- Low maintenance due to simple and robust design

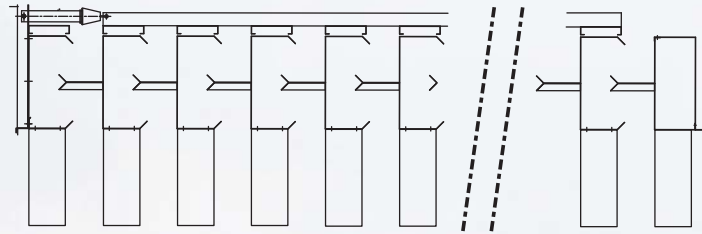
Design characteristics:

The AIRSTAR is made of aluminium (AlMg3) as standard. An additional locking mechanism (optionally available with sealing brushes) prevents unnecessary energy loss during shutdown periods. The locking mechanism with rollers sliding in guide rails can be controlled electrically or pneumatically. Additional splitter attenuators can be fitted in a raised base if this is necessary due to high noise levels caused by the production processes. The splitters are located underneath the labyrinth construction. The splitter frames are made of galvanized steel sheet. The absorption material is moisture-repellent and abrasion-resistant. The ventilator can be delivered with an empty housing and equipped with splitter attenuators at a later date.

The AIRSTAR is available in two versions: AIRSTAR A1 and AIRSTAR A2.

AIRSTAR A1

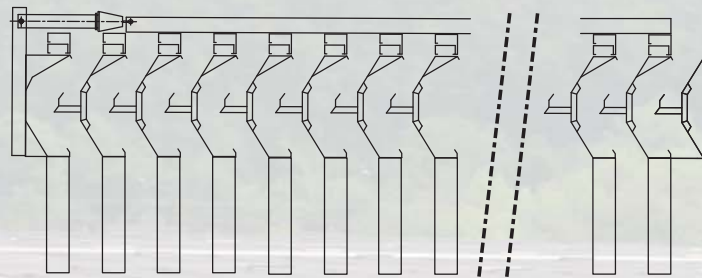
The AIRSTAR A1 allows the required airflow when combined with a sufficiently large roof opening. The ratio between the splitter-attenuator housings and the width of the air openings is 1:1, allowing a high sound-insulation value.



AIRSTAR A1 with splitter attenuator and locking mechanism (optional).

AIRSTAR A2

In the case of the A2 version, the labyrinth has a more aerodynamic design, which, having an improved flow-rate coefficient (CV), allows increased airflow with a smaller roof opening. The ratio between the splitter-attenuator housings and the width of the air openings is 1:1.5.



AIRSTAR A2 with splitter attenuator and double slider (optional).

Locking mechanism:

To prevent heat loss during shutdown periods, an additional locking mechanism is necessary, which can be ordered optionally. This allows the ventilator to be closed or the air volume to be regulated. The sliding louvres are combined in groups, which are laterally supported by polyamide rollers.

For additional sealing, the locking louvres can be fitted with nylon brushes. The locking-mechanism actuator is either

- a double-acting maintenance-free pneumatic cylinder with a bellows
- or a low-maintenance electric motor.

AIRSTAR

Sizes:

The maximum width of the AIRSTAR is limited to 3,800 mm. The unit can be built in any length as required; drive units must, however, be fitted at specified intervals when a locking mechanism is used. Apart from the two versions A1 and A2 with the optional locking mechanism there are four different unit heights.

Type:	Base height:	Unit height:
200*	200 mm*	700 mm*
500	490 mm	990 mm
750	735 mm	1,235 mm
1000	980 mm	1,480 mm

* not suitable for the installation of splitter attenuators

Insertion loss of the units:

AIRSTAR A1	Insertion loss in dB/octave octave center frequency (Hz)									
	63	125	250	500	1000	2000	4000	8000	Rm	R'w
Without splitters	0.9	5.7	4.3	7.4	9.9	11.1	11.1	11.0	8.3	10.4
With splitters 500 mm	1.9	7.7	10.2	17.1	23.8	22.3	18.4	16.5	17.0	20.9
With splitters 750 mm	2.2	8.6	13.0	21.2	29.1	26.0	20.2	17.3	20.6	24.6
With splitters 1000 mm	2.4	9.5	15.7	25.3	34.3	29.4	21.9	18.0	24.1	27.4

AIRSTAR A2	Insertion loss in dB/octave octave center frequency (Hz)									
	63	125	250	500	1000	2000	4000	8000	Rm	R'w
Without splitters	1.9	5.7	5.0	3.7	5.9	7.6	7.0	7.0	5.9	6.6
With splitters 500 mm	2.8	7.2	8.3	11.4	21.9	22.4	18.3	15.8	14.8	18.2
With splitters 750 mm	2.7	7.5	10.3	14.6	27.5	26.6	21.1	18.0	17.9	21.0
With splitters 1000 mm	2.6	7.7	12.3	17.8	33.1	30.7	23.8	20.3	21.1	23.7

RM = mean sound reduction index R'w = apparent weighted sound reduction index