

Aira



A complete range
of real air curtains

www.lemmens.com

 **P.LEMMENS**
A Swegon Group company

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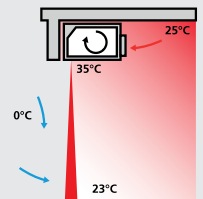
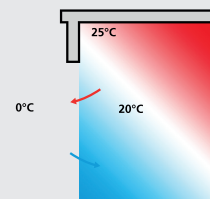
Als het om lucht gaat.

 **AUERHAAN**
KLIMAATTECHNIEK

“The AIRA, with its elegant and discreet design combined with its technical characteristics, this real air curtain fit in all situations.”

Why an Aira air curtain ?

Without air curtain an open door creates unwanted drafts affecting the budget and comfort. With no air curtains, cold air enters through the bottom of the room, hot air exit through the top. The “air curtain” effect: the air curtain draws air from the top where the air is the hottest and it recovers this heated air and blows it toward down with a certain speed. The residual ground speed should be at least 2 m/s. “ Therefore the “air curtain effect” allows to recover the hot stagnates air on the top of the room and make it recirculates (delamination), preventing the creation of a cold air stream to enter the room. This create a layer of “insulation” between indoor air and outdoor. Despite this, the air entering through the bottom will be warmed up in order to insure comfort for people close to the entrance.



The Aira range

PLC introduces a complete range of air curtains: 1m, 1,5m, 2m and 2,5m wide split into 2 lines: the “commercial line” and “industrial line” satisfying the market requirements. The Aira range is also split into 3 versions:

- Aira B: air curtains with warm water heat exchangers
- Aira E: air curtains with electrical coils
- Aira V: air curtains without heat exchangers.

The diffuser, the fans, the inlet grid and the heat exchangers are specially designed to insure a high initial speed and to eliminate turbulence (source of noise). The water/air exchanger ensures an optimal temperature differential (ΔT 15°C). The specially sized spacing between the exchanger tubes reduce the clogging risk. The larges particles will be stopped by the inlet grid of the Aira.

Applications

C: the “commercial line” is designed for shops, shopping centers, offices, halls, etc... It has a more aesthetic, compact and slim line, while still being able to deliver a real $2.000 \frac{m^3}{h}$, for installations up to 4m high.

I: the “industrial line” is engineered for more industrial applications. The construction is more robust and rigid, but it can actually deliver $3.500 \frac{m^3}{h}$, and can be applied in installations up to 8 m high.

The “commercial line” can also be modified to be applied in false ceiling applications. In this case, the device is delivered with a removable grid. In addition to traditional ‘heating’ applications the Aira V version creates a “air wall” for applications such as cold rooms.

Fans

The Aira can be equipped with AC fans (robust which have demonstrated their longevity) or TAC fans with high efficiency. The obvious advantages of the TAC fans convinced us to include them in the Aira series.

Their 4 main advantages are as followings :

- EC motor : minimum 50% energy saves.
- Constant air flow regardless of the pressure drop, Constant pressure related to a 0/10 V signal.
- Easy installation: the required airflow = the obtain airflow, not need for a complex setup or other time wasting procedures.
- Lower noise level compared to traditional airflow controls.

Construction

Rigor and aesthetics, a useful compromise between performance and comfort. Everything is designed to improve the sound level, while maintaining aerodynamics performance.

- New air diffuser : specially designed for air curtain applications, in order to create a uniform initial airspeed with high induction. The shape of the air outlet has been re-engineered to eliminate turbulences, the result is a reduction of the noise level and a better range.
- New inlet grid: improved to block the “big” particles. The installation of a filter becomes superfluous. Its shape is rounded (except for the industrial line) to enhance the appearance, but also to increase the total surface, thus reducing the inlet air speed, thus the noise level. The color matches the unit's.
- The construction is made from omega shaped anodized aluminum profiles connected by reinforced polypropylene corner pieces. The panels are double skinned steel plates insulated with fireproofed treated EPS. The outside panels are pre-painted gray RAL 9002 color. The structure is provided with M8 nuts in order to be fixed by threaded rods.



Regulation

The air curtains are delivered entirely prewired (plug & play) with its complete controller, remote control and all other accessories.

- **Aira equipped with AC motors :** In order to improve your system, we hardly recommend to install a fan speed control system (ES). This option provides effective solution for good control of the fan power and sound level at a competitive price. For bigger projects, one ES can be used for several Aira, in this case the additional current rating must be taking into account in order to select the correct speed controller. The wiring diagram is joined to the speed controller.
- **Aira equipped with TAC motors :** The TAC3 technology gives a large fan operation control of the air curtain. The fans parameters are introduced through a LCD display and 4 setting keys. This makes the setup very intuitive and easy.

Options

- Flexible sleeve and pulsion grid for connection in false ceilings (KFP).
- Suction grid (GRAC), flexible sleeve (MSA) and recovery plenum (PLA) for false ceilings connection.

Sound Level

The Aira series is designed in order to generate the lowest sound level while keeping high ventilation performances. We strongly advise installers and contractors to use a speed control in air curtain installations. It allows to modulate the airflow according to the actual installation conditions, and thus to make the best compromise between performance and sound level.

Selection program

A selection software downloadable on our website helps the user to simulate the real working conditions of the device. This software calculates the thermal power, voltage, flows, range, noise levels, and prints a full specification selection sheet, with dimensions and options.

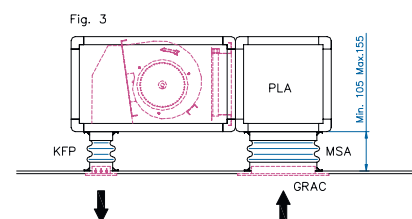
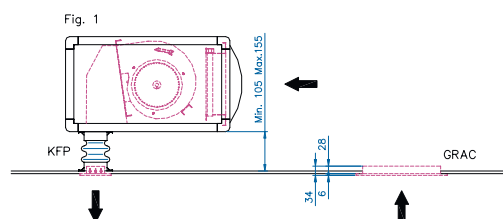
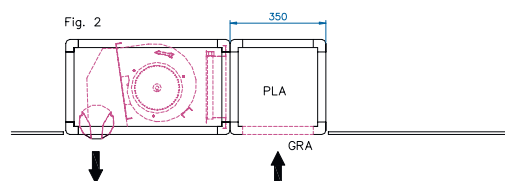
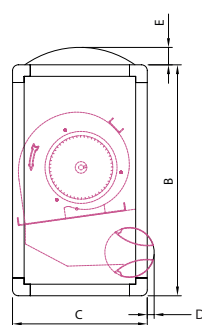
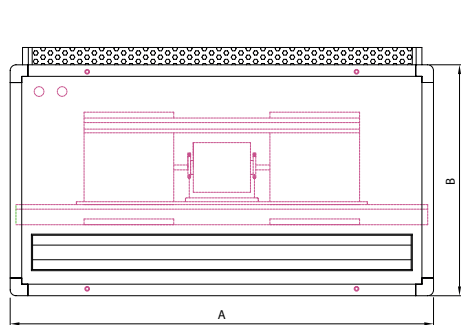
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Technical characteristics

Commercial line

Product code	Label	A	B	C	D	E
820055	AIRAc B10	1100	600	350	18	45
820056	AIRAc B15	1600	600	350	18	45
820057	AIRAc B20	2170	600	350	18	45
820097	AIRAc B25	2500	600	350	18	45
820063	AIRAc E10	1100	600	350	18	45
820064	AIRAc E15	1600	600	350	18	45
820065	AIRAc E20	2170	600	350	18	45
820099	AIRAc E25	2500	600	350	18	45
820060	AIRAc V10	1100	600	350	18	45
820061	AIRAc V15	1600	600	350	18	45
820062	AIRAc V20	2170	600	350	18	45
820100	AIRAc V25	2500	600	350	18	45
820058	AIRAc B10 TAC	1100	600	350	18	45
820059	AIRAc B20 TAC	2170	600	350	18	45
820066	AIRAc E10 TAC	1100	600	350	18	45
820067	AIRAc E20 TAC	2170	600	350	18	45
820086	AIRAc V10 TAC	1100	600	350	18	45
820088	AIRAc V20 TAC	2170	600	350	18	45
820104	AIRAc V25 TAC	2500	600	350	18	45

For further information on the industrial line, please contact your local distributor.



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