



Save energy – maintain comfort

Air curtains for industry



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The invisible door

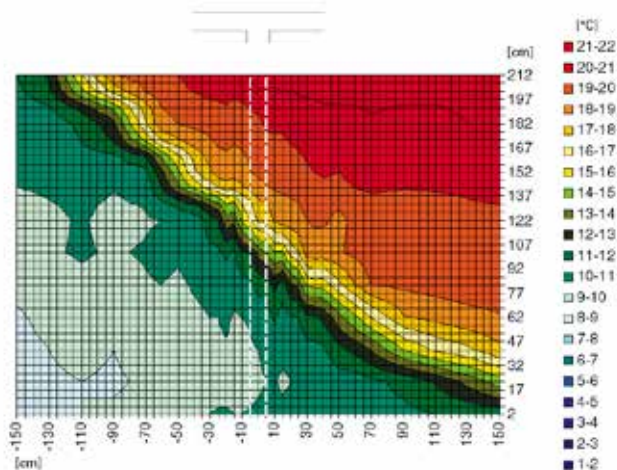
An open door is inviting and easy to pass through however can result in energy losses and poor working environment. An air curtain creates a comfortable environment and minimises energy loss. Frico air curtains effectively separate indoors from outdoors and warm from cold.

Air curtains create an air barrier between warm and cold and prevent cold outdoor air from entering, and heated indoor air from escaping, ultimately resulting in protecting air conditioned premises and refrigerated rooms. A correctly installed air curtain reduces draughts and ensures comfortable indoor conditions with reduced energy losses at doorways and entrances.

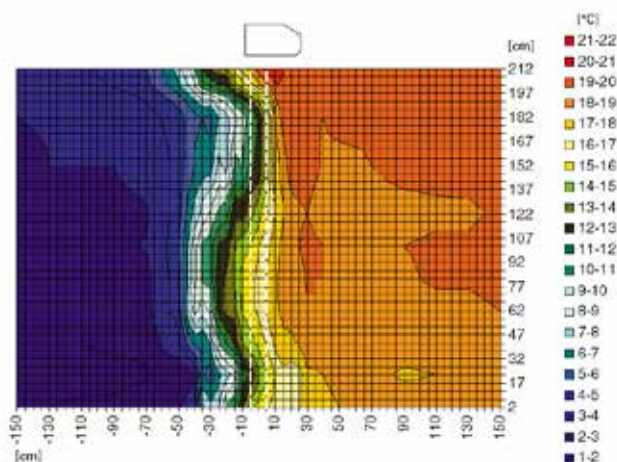
Frico's Thermozone technology ensures optimum curtain effect with a perfect balance between air volume and velocity. This balance not only makes the air curtain more effective but also has other advantages. The indoor climate will be more comfortable should the sound level and air turbulence be reduced and will result in lower energy costs.

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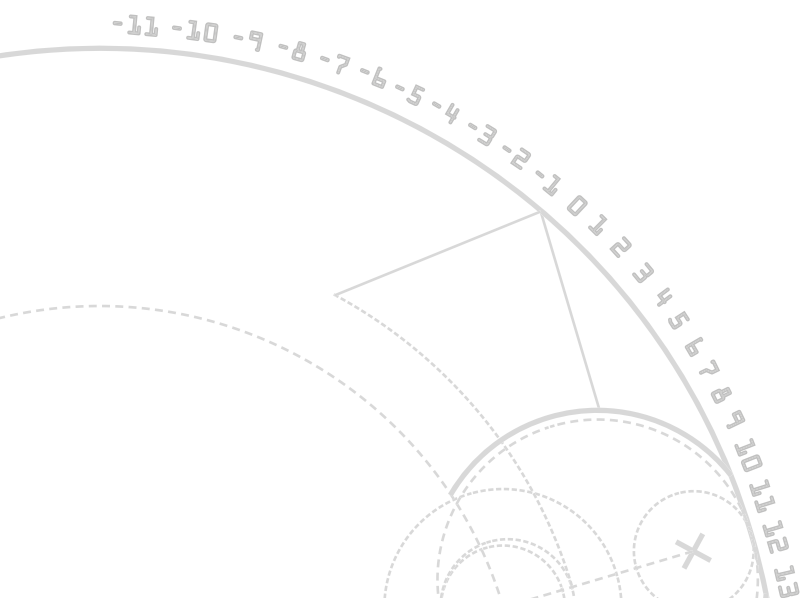
A correctly installed air curtain reduces energy losses at an open door.



Air escaping from an unprotected opening.



With a correctly set air curtain there is a distinct separation between the different temperature zones.



Selecting the correct air curtain

Remember the following when selecting air curtains:

- Ensure that the airflow reaches the floor at optimal air velocity, the installation height (not the height of the opening) is crucial for the choice of air curtain.
- The air curtain must cover the entire width of the opening (or height for vertical units). Frico's air curtains are available in various lengths. For wide or high openings several units can be installed alongside or on top of each other.
- The units must be installed as close to the opening as possible.
- Several of our air curtains can also be ordered with heating which assists in heating the premises when the door is closed.
- It is important to ensure that the pressure difference between the premises and the surroundings is not excessive. Contact Frico for more information regarding balanced ventilation.



Horizontal installation

The air curtains are installed horizontally above the door opening creating a vertical air barrier.

Recommended installation height	Air curtain
3.5 m	PA3500 ✱ † ♣
4.2 m	PA4200 ✱ † ♣
4.5 m	AGI4500 ✱ ♣
5.5 m	AGS/AGR5500 ✱ ♣
Large doors	AGI6000 ✱ ♣

Vertical installation

The air curtains are installed vertically next to the door opening creating a horizontal air barrier. Two air curtains are installed, either side of the opening.

Recommended installation width*	Air curtain
5 m	PA3500 ✱ † ♣
6 m	PA4200 ✱ † ♣
Large doors	AGI4500/6000 ✱ ♣
Large doors, blowing from below	UF600 ✱

*) Two air curtains, one on either side of the opening.

Accessories/Controllers

Several air curtains in our range are supplied complete with built-in controllers while separate controllers are available for other options.

SIRe is a smart and well designed, low voltage control system which is available in three different levels complete with different functions.



Functions SIReACY Competent

- All functions for Basic
- Calendar function
- Filter alarm
- Simple BMS control - on/off, fan speed and alarm functions
- Flexible mode - for doors that open and close frequently
- Open mode - for doors that stay open



Functions SIReBN Basic

- Manual regulation of the fan and temperature
- Automatic control of fan speed and temperature with integrated thermostat.



Functions SIReAAY Advanced

- All functions for Competent
- Eco mode - extra energy-efficient mode
- Comfort mode - when comfort is important
- Advanced BMS control
- Max limit of return water temperature.
- Proactive regulation – measures outdoor temperatures for proactive reaction.

Product range

PA3500/4200

With air curtain PA3500/4200 there are more opportunities than ever before, packed into the same product. There are therefore many areas of use. PA3500/4200 is specifically designed for doorways in for example, large commercial installations or industrial and warehouse buildings. The air curtain has many intelligent and energy saving features which provide fully automatic protection for the entrance, adaptable to each area of use.



AGS5500/AGR5500

AGS/AGR is a powerful air curtain series intended for industrial doors but it can also be used for entryways in other large premises such as shopping malls. AGS5500 is surface mounted and AGR5500 is intended for recessed mounting.

- The following models are available for special order:
 - with electrical heating
 - with alternative water connections
 - for vertical installation

AGI4500/6000

AGI is a robust air curtain intended for vertical or horizontal installation in large doorways such as logistic centres, loading bays and warehouses. With its powerful fans and high enclosure classification it is specially suitable for industrial environments.

- Simple suspension using fixing nuts on the upper side for installation with threaded rod.
- Adjustable outlet grille makes it possible to direct the air for optimum air curtain effect.



UF600

UF600 creates a very effective air barrier when air at high speed is pushed out through a narrow channel situated in the floor inside the door opening. An air barrier directed upwards from the floor gives the best possible protection against cold air flowing into the premises.

UF600 consists of a pillar with inlet hood, silencers and fans, as well as a floor channel with its slot at floor level. The pillar is placed outside (or inside) the door on either side of the opening. The floor channel is cast in the floor.

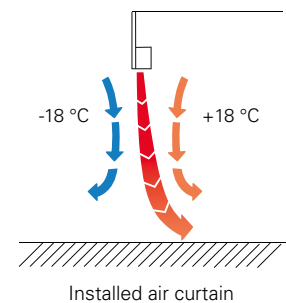
Save energy...

Thermozone technology ensures optimum curtain effect which maintains a perfect balance between air volume and velocity. Frico air curtains provide the most efficient zone separation with the lowest possible energy consumption, regardless of whether it is warm or cold air which you require to be kept indoors.



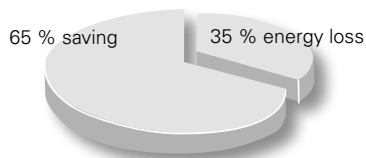
Example Industrial door

Entrance door opening:	3 x 3 m (W x H)
Internal ceiling height:	5 m
Premises area:	3000 - 6000 m ²
Dimensioned room temperature:	+20 °C
Wind velocity:	0-2 m/s
Annual average temperature:	+6.6 °C in Stockholm
Working hours:	07:00-16:00, 5 day per week
Average time door is open:	1 hour/day



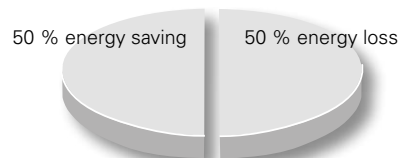
Potential saving/Payback-time

Vertical installation - one on either side of the door opening



65 % saving = 42 120 kWh/year
4 212 EUR per year based on 1 kWh = 0,1 EUR

Horizontal installation above door opening



50 % energy saving = 32 400 kWh/year
3 240 EUR per year based on 1 kWh = 0,1 EUR

Annual energy loss for door opening without protection: 64 800 MWh/year

Frico air curtains have optimised performance, low sound levels and ensure maximum protection.

...maintain comfort

In many premises, for example shops, department stores, industrial premises and warehouse distribution terminals, doors remain open for a large part of the day. This means huge losses of expensive heated or cooled air, but also poor levels of comfort for customers and staff. Frico's air curtains ensure a comfortable indoor climate, free from draughts. The air curtain also keeps out insects and gas emissions. Noise is also an important factor for indoor comfort. At Frico we place great importance on our product's sound levels. The fans we use, combined with optimised airflow geometry, assists in maintaining the lowest sound level possible.

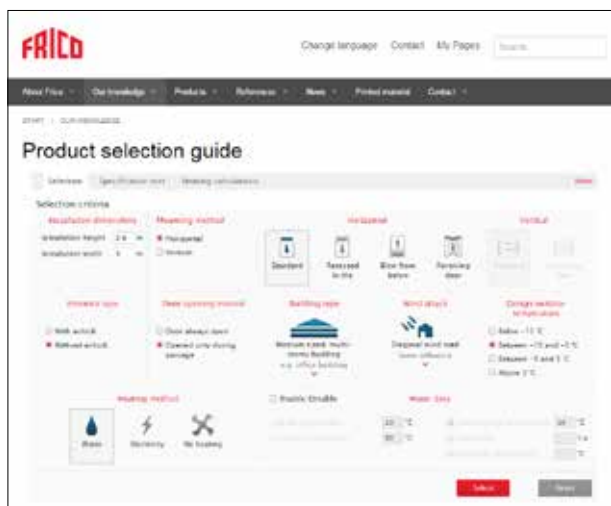
Just a click away

Smart tools

Information regarding all our products can be found on our website. There are also smart tools to assist in finding the right product, make heating calculations and create specification texts.

Product selection guide

The product selection guide has a basic and an advanced level. The level used depends on how much information is available with regard to the installation. The product selection program can be used to give you an idea of which products are suitable.



Contact us at Frico for advice

You are very welcome to contact us to discuss your door requirements. With some information we can estimate the possible energy saving. See the handy checklist with useful parameters.

- Door width and height
- Premises type and size
- Days per week the door is in operation
- Hours per day that the door is open
- Indoor and outdoor temperatures
- Wind influence
- Any negative pressure

More information on
who to contact at
www.frico.se



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