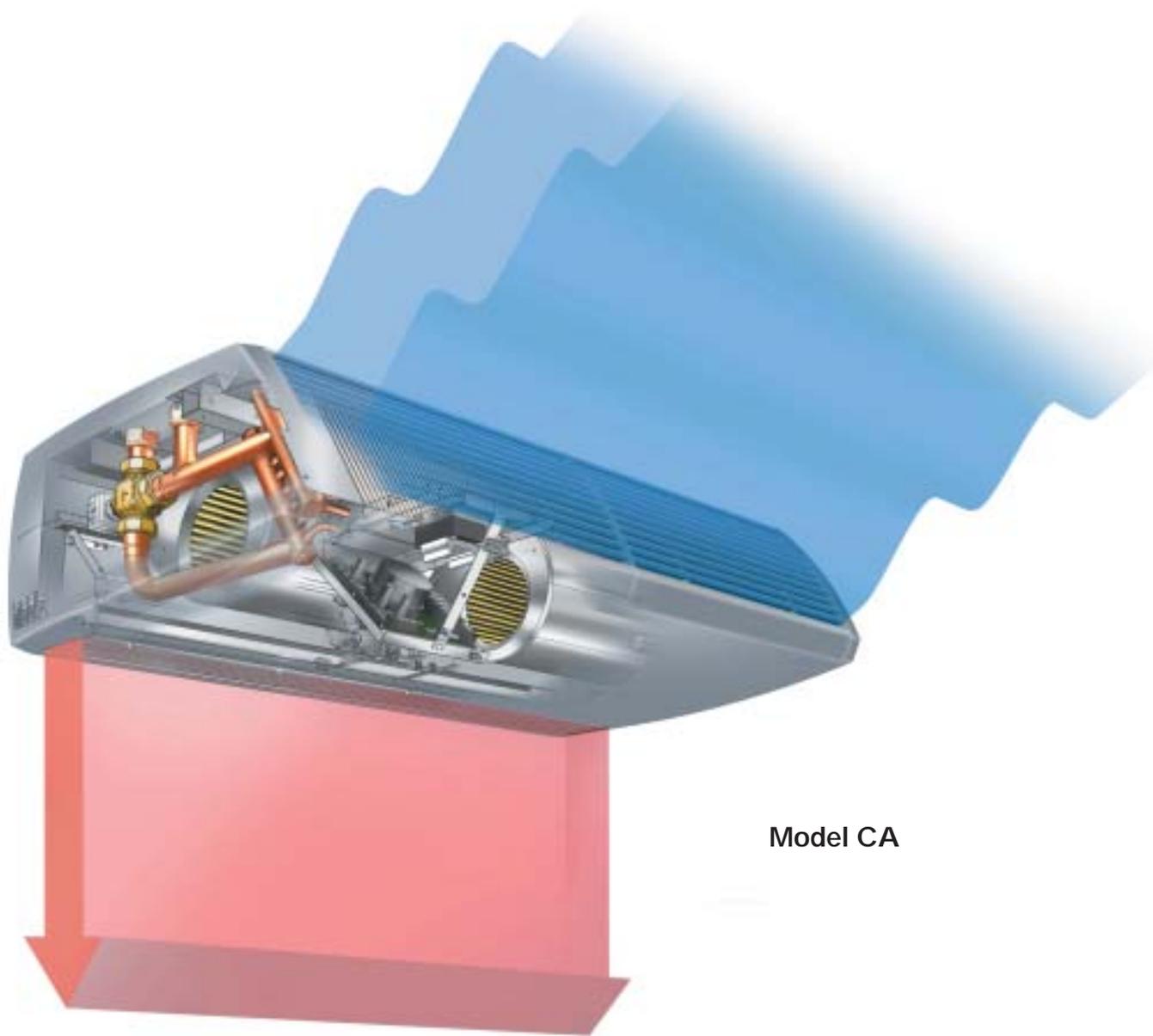


Comfort Air Curtains



Model CA

biddle

Comfort Air Curtains

High shop comfort



In buildings with open doors, the Biddle air curtain provides for a comfortable inner climate.

There are many reasons why entrance ways to public buildings and shops are kept open. An open door has an inviting effect and the customer's ability to walk freely into the business contributes to a customer-friendly environment. However, an open door without an air curtain also creates an uncomfortable, draughty internal climate as a result of an incoming flow of cold or warm air. The resulting discomfort can drive away customers and lead to staff illness.

The Biddle air curtain warms the cold air before entering the building and prevents the escape of warm air from leaving through the open door. The Biddle Comfort Air Curtain proves that an open door and a comfortable inner climate can coexist.



Applications:

- Architectural buildings
- Buildings with revolving doors
- Gas stations
- High volume buildings
- Hospitals
- Offices
- Public buildings
- Shopping malls
- Supermarkets
- Trendy shops

Always the best possible efficiency

In all weather conditions (windy and / or extreme temperatures) the Comfort Air Curtain, model CA, is highly efficient. Besides this important advantage the Biddle air curtain offers more:

- High comfort and maximum efficiency due to the patented rectifier and CA-technology
- Intelligent control with comprehensive software, which offers many external control possibilities
- User-friendly control panel with LCD display
- Standard integrated two-stage frost protection
- Low sound level
- Easy installation because of 'plug & play' and flexible suspension system
- Low maintenance
- Initial higher investment leads to saving money and energy in the long term

References:

- ABN AMRO
- Carrefour
- C&A
- Coop
- E. Leclerc
- Esprit
- Free record shop
- Géant
- H&M
- Ikea
- ING Bank
- InterSpar
- Intertoys
- Mercator
- Merkur
- Stockmann
- Zara

Application

Biddle air curtains are compatible with all types of buildings. The air curtains comply with the EU directives on radio interference suppression. This means that they do not affect the operation of cash registers, security gates, mobile phones or intercom systems.



Functional and trendy design

The attractive comfort air curtain blends with any interior. The appearance is enhanced by slightly curved parts such as the underside of the unit, the air inlet grill and the end panels. The unit is easily installed thanks to its slim design and the visually accentuated angled air inlet grill. The aesthetic and unobtrusive free-hanging model fits into most shop lay-outs and designs. Even with multiple air curtain installations mounted in a line, the overall impression is one of a single, integrated unit as a direct result of a continuous air discharge grill and attractive plastic end panels.

Biddle Comfort Air Curtains are, as a standard, available in two colours: white (RAL 9010) that makes the air curtain as inconspicuous as possible or the trendy aluminium (RAL 9006) look. Custom colours are available at an additional cost.

Many models and options

Biddle Comfort Air Curtains are available in four different types: S(mall), M(edium), L(arge) and XL (Extra Large), which are fit for door heights of 2.0 m to a maximum of 3.8 m. By mounting more than one unit in a line, a fitting solution can be offered for any door width. All types are available in 4 widths: 1.0, 1.5, 2.0 and also 2.5 m. Biddle produces free-hanging, recessed and cassette models, all of which have an electric or hot-water heating battery.

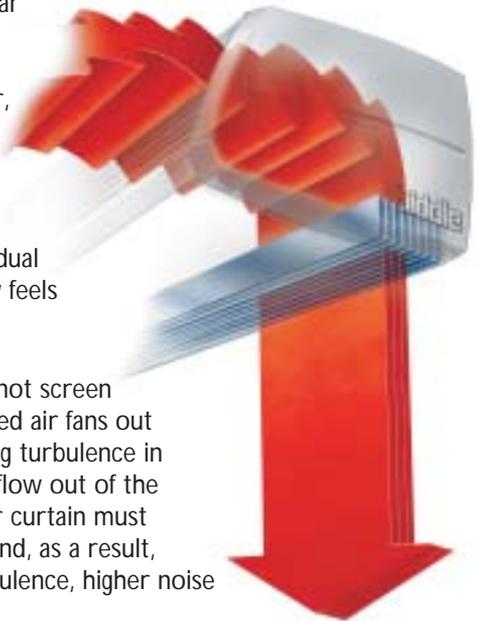


Technologies

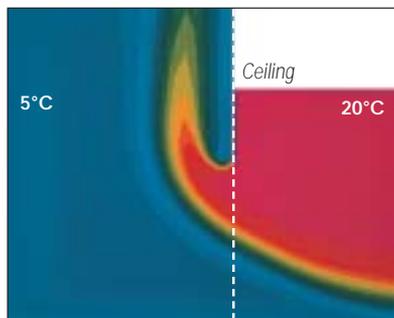
To increase the comfort and enhance the climate separation, considerable research and development has been invested in the design of the air discharge pattern of the Biddle Comfort Air Curtain. The result is highly-advanced patented rectifier and Constant Air velocity-technologies.

Patented rectifier-technology

The air curtain must discharge air to minimize warm air and, therefore, energy loss. The rectifier stabilizes the air turbulence created in the fans, discharging air in a laminar air stream. The optimal discharge pattern is the reason that relatively little air is needed to reach the floor, while the door opening is also well screened. This revolutionary design means that the Biddle air curtain need not discharge air at high speed and, as a result, an individual walking through the entrance hardly feels the air stream.

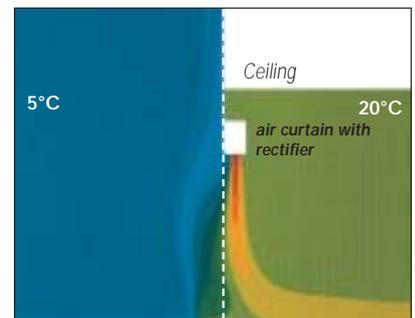


An air curtain without rectifier will not screen the complete opening. The discharged air fans out and does not reach the floor, causing turbulence in the air stream and allowing heat to flow out of the doorway. To reach the floor, the air curtain must discharge the air at a higher speed and, as a result, the unit produces considerable turbulence, higher noise levels and consumes more energy.



outside door opening inside

Open door without air curtain



outside door opening inside

Open door with air curtain and rectifier

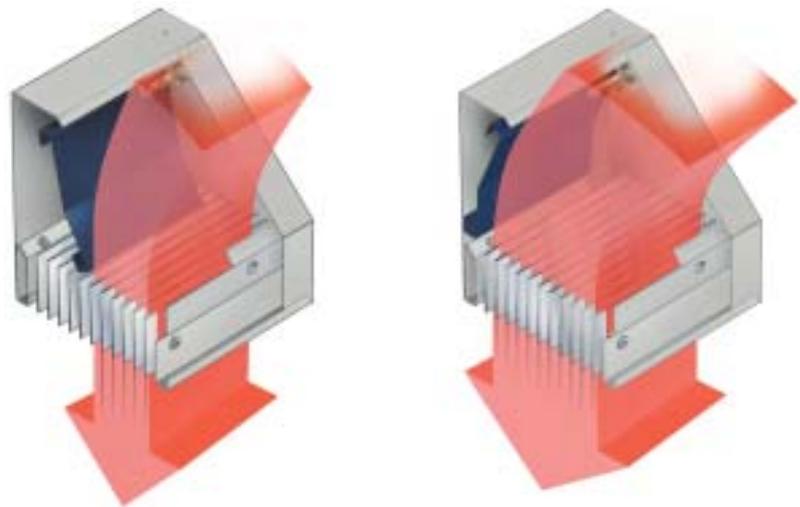
Source: TNO-research, 1995
(Dutch National Research Centre)

Technologies

Patented Constant Air velocity-technology

In addition to the rectifier technology, the Biddle air curtains also feature the innovative Constant Air velocity-technology (CA). The CA-principle consists of an ingenious valve system, which can expand the air discharge opening. Even when the air curtain is set at a higher fan speed, the air velocity will remain constant. As the valve opens up further, the discharge width increases allowing the wider air stream to produce more air volume at the same constant air velocity. The benefits of this technology include:

- The wider air stream allows the air curtain to better reach the floor, so that the risk of draught is reduced.
- The constant low air velocity determines the effect of the rectifier technology resulting in maximum performance and exceptional comfort.
- Even in less favourable weather conditions, when the air curtain is set higher by one speed, the comfort conditions should remain constant. As the air discharge grill expands, the air velocity remains equally low and is, therefore, barely perceptible.



*Low fan speed, low air velocity,
valve half open.*

*Highest fan speed, valve open,
air velocity remains constantly low.*

Climates throughout the year

An air curtain is effective throughout the year. In winter, it prevents loss of energy and cold air entering the building. In summer, a continuous re-circulation of indoor air prevents the influences from hot outside air on the inner climate. An air curtain with a turbulent air flow results in an undesired mix of outside and inside air. A lot of cooling capacity is needed to create a comfortable climate in the building. The rectifier grille of a Biddle air curtain stabilizes the air turbulences created in the fans, leading to a proper separation of the inside and outside air. Almost no cooled air disappears through the open doors, while a better air distribution will improve the efficiency of the installed air conditioning equipment. So, also in summer the air curtain saves energy and maintains a stable inner climate. Besides that, it keeps out moisture and insects.



The control panel may be installed wherever you like.

Intelligent Biddle control

The Biddle Comfort Air Curtain features integrated air and water supply controls that guarantee optimum operation in terms of energy consumption and comfort.

The intelligent electronic control system consists of a control panel, a connector plate and an interface. The control panel has sturdy push buttons and clear LCD display, providing information on air discharge width, discharged air temperature, room temperature and filter contamination level. By using the control panel the air curtain can be set at the desired comfort level made possible by the intelligent pre-programmed combination of discharge temperature and discharge width. Using a programming menu in the control panel the unit may be adjusted to the specific (climatic) conditions.

A timer, a door contact switch or a building management system (BMS) may also be connected to the connector plate.



Quality

Biddle stands for excellent service, quality of the highest grade, and thinking along with its customers. Innovation and engineering are also considered by Biddle to be major tasks. In creating this air curtain, Biddle has made optimum use of its innovative capabilities.

Specials

Air curtains for revolving doors

Many shops and public buildings have revolving doors which can allow outside air to penetrate the doorway causing uncomfortable conditions for customers and staff.

Air curtains with a straight air discharge grille do not screen the whole door opening, resulting in air leakage.

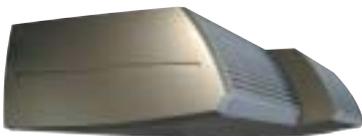


In high traffic buildings where the revolving door is used almost continuously, the indoor climate remains comfortable thanks to the Biddle Comfort Air Curtain.

The Biddle solution for circular revolving doors is a recessed air curtain with a curved air discharge grill. The indoor climate will remain comfortable and free of draughts. The air discharge grill's modern design blends in naturally with its surroundings. The air curtain can be recessed in the ceiling.

Low maintenance

It is essential for the air curtain that the filter is cleaned regularly to function at optimum efficiency, particularly in dusty conditions. To save on costs and expensive maintenance, Biddle has developed the long-life filter that requires cleaning only once a year under average conditions. The filter cleaning can be combined with the yearly maintenance of the air curtain. The filter module is available as an accessory and fits all models.



The filter module is available as an accessory and is fit for all models.

Benefits of long-life filter:

- longer intervals between cleaning
- lower maintenance costs

Customized installation

Low maintenance

The filter is easily accessed by simply removing the air inlet grill. The filter prevents dust from contaminating the air curtain and it can be cleaned using a vacuum cleaner. The control panel indicates when the filter requires cleaning. A long-life filter module is available to minimize filter maintenance.

Flexible suspension system

A mounting rail is located on the top of the unit. The air curtain comes with suspension brackets, which can be suspended to any position in the ceiling. Two types of special brackets are also available on request to allow wall mounted operation.

Ease of installation

The air curtains are a simplistic "plug & play" type and when required have integrated "air and water supply controls", that facilitate the installation. The units with a hot-water battery come with a moulded feeder cable with plug. The control panel is connected to the unit using a low-voltage cable with telephone plugs (RJ 11). In units with an electric heating battery a terminal strip is used for connection to the mains (400V).



No need for expansion of boiler capacity

An air curtain produces a part of the heating capacity that is needed for the room. A theoretical yield of over 90% is feasible but, in practice, it is slightly lower. This energy is used to benefit the indoor climate and can be deducted from the total need for heating equipment. As a result, an air curtain can usually be connected to an existing boiler if water heating is selected.

Advice on selection

Biddle will be pleased to provide advice and detailed information on each installation. You can count on Biddle to ensure that the regulation and control of your systems meets your total, indoor climate expectations. Biddle takes pride in offering solutions that are geared to your specific conditions and needs.



Technical data available on request.

Subject to change.

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