Stainless Steel Air Curtains

POWERED AIRE inc.
How does an air curtain work?

An air curtain is a thermal barrier that separates one environment from another. It does this by projecting a ‘curtain’ of downward moving air over the opening of a doorway. This wall of air reduces infiltration of air from one side to the other.

The air curtain produces a thermal barrier of air which reduces infiltration of the outside air.

Outlet Air Velocity Uniformity is an indicator of the consistency of air velocities across the air curtain width.

The Powered Aire Advantage

- Stainless steel construction for corrosion resistance and durability.
- Widths ranging from 2.5 ft. to 30 ft. and heights up to 50 ft.
- High efficiency plenum provides uniform air distribution across the full width and height of door opening. (See illustration at left)
- Heavy duty direct drive motors for longer life.
- Prewired motors save on electrical installation costs.
- Motor/blower plate is all one removable assembly for ease of service.
- Units factory tested and shipped fully assembled.
- Units crated and secured to wooden pallet for shipping.
Air curtains can function as space heaters

Powered Aire can wire its two-speed heated air curtains to operate on LOW SPEED as a space heater to add supplemental heat to the space via the thermostat signal, and HIGH SPEED from the door switch when a stronger barrier is required as an air curtain.

Solve unique problems with custom air curtains

Powered Aire can customize its air curtains to solve application or installation issues. Units with reduced heating capacity can be supplied when there is insufficient power available in the building to run standard heaters, or units with additional heat can be supplied when circumstances require a unique sequence of air and heat. For example, the electrically heated air curtain pictured at right is utilized in a hospital hallway to temper the cold air rushing in from an adjacent parking garage. Due to a stack effect taking place, the air cannot be prevented from entering, but it can be warmed to a comfortable level with the aid of custom heating coils within the air curtain.
USED AT:
* Retail stores
* Grocery stores
* Convenience stores
* Schools/universities
* Banks
* Casinos
* Hospitals
* Nursing homes
* Museums
* Libraries
* Hotels
* Resorts
* Night clubs
* Office buildings
* Churches
* Military bases
* Veterans facilities
* Government buildings
* Interior room separation
* Breweries/wineries

ALL ARE PROUDLY MADE IN THE USA

CUSTOMER ENTRY Applications

VESTIBULE EXCEPTION

MODEL ETA MODEL CHA
Tested in accordance with ANSI/AMCA 220 to be used as an exception to the vestibule requirement per guidelines of the 2015 International Energy Conservation Code.

• Model ETA has stainless steel case.
• Model CHA is installed above ceiling and features a decorative white grille; other colors and metals optional.

MODEL CLD
The Chameleon is designed to be installed above the ceiling over customer entryways where a standard air curtain cannot be exposed.

• Model CLD is light duty with 1/2 HP motors.
• Model CHD is heavy duty with 3/4 HP motors.
• Decorative white grille is standard; other colors and metals optional.
• Unheated, electric, hot water/steam heated.

MODEL CED
The Customer Entrance Door (CED) air curtain is designed for high traffic facilities where customer satisfaction is essential. The CED has a comfortable airflow and is one of the quietest air curtains in the industry.

• Available in 1-ft. increments from 3 to 12 ft.
• Unheated or electrically heated.
• Dual speed 1/2 HP motors.
• Can be used with building management systems.
• Easy installation.
• Aesthetically pleasing.
**CLIMATE CONTROL** Applications

**MODEL ETD**
The ETD is used to stop cold or warm air from entering a climate controlled environment.
- Available in 1-ft. increments from 3 to 12 ft.
- Unheated or electrically heated.
- Dual speed 3/4 HP motors.

**USED AT:**
- Dock doors
- Service doors
- Food processing doors
- Climate separation

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**Air Curtain Savings Surpass Customer’s Expectations!**

A Seattle business has two busy 9 ft. wide x 10 ft. high dock doors and a warehouse that must maintain a temperature above 65°. After being hit with a $2,361 monthly gas bill, the company installed two Model ETD-3-108 air curtains over the dock doors and one Model MP-1-36 air curtain over a man door. The coastal company was amazed to see monthly savings of between $356 and $704 over the previous year’s same three month period. “I had no idea the savings would be so great in a relatively mild climate,” the company owner said.

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<th>DEGREE DAYS*</th>
<th>DATE</th>
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*Days below the standard temperature of 65°F, the temperature below which buildings need to be heated.

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**INSECT CONTROL** Applications

**MODELS BCE/BCT**
The BCE and BCT are used to stop insects, dust and other debris from entering through openings.
- Available in 1-ft. increments from 3 to 12 ft.
- Can be ETL listed for indoor or outdoor use.
- BCE has 1/2 HP motors; BCT has 3/4 HP motors.

**USED AT:**
- Restaurants
- Hospitals
- Cafeterias
- Clean environments

**MODEL RBT**
The ETL Sanitation Listed RBT air curtain is specifically designed to stop flying insects from entering through restaurant and other food service doors.
- ETL Sanitation Listed to Standard NSF-37.
- Available in 1-ft. increments from 3 to 12 ft.
- Can be ETL listed for indoor or outdoor use.
- Totally enclosed 3/4 HP motors.

**USED AT:**
- Doors that are required to meet sanitation codes

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**OTHER COMMERCIAL HEATING OPTIONS**

- Indirect Gas Heat
- Direct Gas Heat
- Hot Water/Steam Heat
**LOW PROFILE Applications**

**MODEL MP**
The MP’s compact design is ideal for openings where headroom is limited.
- Only 8.5 inches high & 13.5 inches deep.
- Unheated or electrically heated.
- Available in 30, 36 and 42-inch widths and thereafter in 1-ft. increments up to 10 ft. wide.
- Variable speed controller (480/575 voltage is dual speed)
- Aesthetically pleasing.

**USED AT:**
- Amusement parks & zoos
- Concession stands
- Office entryways
- Residential doors
- Resorts/country clubs

**PASS THRU WINDOW Applications**

**MODEL PTW**
The PTW is used to stop cold or warm air from entering pass thru windows.
- Stainless steel.
- Unheated or electrically heated.
- Plugs into standard 120 volt receptacle.
- Optional door switch with Timer.
- Only 5-inches high!

**USED AT:**
- Restaurant Pass-Thru windows
- Drive-up pharmacies
- Photo pick-up windows
- Toll booths
- Ticket windows
- Concession stands

**Corrosive Duty Applications**

**MODELS LDC and HDC**
The LDC and HDC air curtains differ from Powered Aire’s standard units by featuring a higher grade stainless steel case and stainless steel internal components for added protection against rust and corrosion that may occur when corrosive fumes or vapors are present.
- LDC is light duty with 3/4 hp motors.
- HDC is heavy duty with 3 hp motors.

**USED AT:**
- Maritime facilities
- Beachfront properties
- Swimming pools
- Car washes
- Food processing plants
- Locations with corrosive atmospheres

**Hazardous Area Applications**

**MODELS LDX and HDX**
The LDX and HDX air curtains provide spark resistant construction for hazardous areas. They are manufactured for Class I Division 1 Group C & D and Class II Group F & G hazardous areas. Hazardous area door switch available for activation.
- LDX is light duty with 3/4 hp motors.
- HDX is heavy duty with 3 hp motors.

**USED AT:**
- Manufacturing plants
- Pharmaceutical areas
- Grain storage
- Mining industries
- Locations where combustible liquid is stored

**ALL ARE PROUDLY MADE IN THE USA**
Wind measurements, temperature and site conditions were all important considerations when Powered Aire Inc. selected EHD model air curtains for the Red Deer Civic Yards in Alberta, Canada, where temperatures can drop to -40 F degrees on a cold winter day.

Powered Aire utilized its state-of-the-art Computational Fluid Dynamics (CFD) design software to determine the specific feet per minute (FPM), cubic feet per minute (CFM) and nozzle width the air curtains would require for maximum all-season effectiveness.

\begin{itemize}
  \item Stainless steel.
  \item Includes control panel.
  \item Top, bottom and front access panels for servicing, without having to lower unit to ground.
\end{itemize}

**BIG Doors get GREAT Protection with Powered Aire Curtains**

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**CASE STUDY**

Outside Temperature: 36.5° F
Initial Inside Temperature: 67.6° F

Overhead door left open for 2 minutes.

**FINDINGS:**

After 2 minutes **WITH** the air curtain operating, the temperature directly inside of the door was 66.7°

After 2 minutes **WITHOUT** the air curtain operating, the temperature directly inside of the door dropped to 42.2°

**INDUSTRIAL HEATING OPTIONS**

- Hot Water/Steam Heat
- Indirect Gas Heat
- Direct Gas Heat
Custom Engineering Solutions

A major Big Box Retailer turned to Powered Aire to design a gas-heated air curtain that would also permit light from a glass transom above the entryway and utilize unused space created by the high ceiling. This is just one example of how custom engineering by Powered Aire can transform ideas into reality.

Air Curtains Can Be Recess Mounted

When there is insufficient room between the top of the door and the ceiling to mount an air curtain, or if it is not desirable to see the air curtain, the air curtain can be recess mounted in the ceiling with the use of a custom nozzle extension. Any of Powered Aire’s air curtains can be recess mounted.

Installation Options

- **Existing Holes**: One in each back corner for flush mounting directly to wall.
- **Mounting Plate**: For flush mounting models CED, BCE, BCT, RBT.
- **Extension Plate**: Extends mounting width 2.5 to 3.5 inches.
- **Threaded Rod**: For a clean, aesthetic look.
- **Lt.-Duty Brackets**: With strut extensions to reach brackets.
- **Welded brackets**: Custom built for large industrial models.

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