

Brochure Air Curtain



Protect from fumes, pollution and bad odours

Protect from pests and insects

Protect from wind draughts

Energy saving and reduction of losses

Improve visibility and accessibility



Reduce air conditioning running costs



Maintain the air quality and security



Commercial profitability and "open door effect"



Compliance with regulations and certifications



Custom projects. Easy installation and maintenance



NOTE: All Correspondence including P.O. & Financial will be carried out with the name of
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AIRTECHZ Sole distributor of Air Curtains China



Member of Pakistan HVAC Society

Why We Need Air Curtain?

- Air curtain is an equipment that creates an air barrier over the door to separate two different environments efficiently, without limiting the access of the people or vehicles. It is used to prevent air, contaminants, or flying insects moving from one open space to another. In fact, Air curtains create an invisible door that prevents the inflow of external air and restricts outflow of indoor air, protecting inside temperatures.
- The most common implementation is a downward-facing blower fan mounted over an entrance of the door of the building, or over an opening between two spaces subject to condition at different temperatures.



Main Features

Easy installation and maintenance	Stable & Even air flow
Large air volume with high air Velocity	Smooth voice
Available 3',4',5' and 6' for door width	Door height from 6' to 14' from ground
Product is controlled by mechanical limit switch	Full metal casing is processed with powder coating paint.
High Efficient & durable Motor works	Easy clean and maintenance
It brings larger air volume and strong air pressure and build a seamless wind wall to keep indoor cool.	Available for both regular and on/off operation.

The Mechanism of the Air Curtains

Internal fans compress the air arriving through the local environment and force it through an air outlet, which is directed through the open doorway. The air curtain's fans can be belt-driven or direct-drive. Centrifugal, axial, and cross-flow are the most common forms. The air curtains vent the air from top to bottom of the door is positioned horizontally across the top of the opening/door.

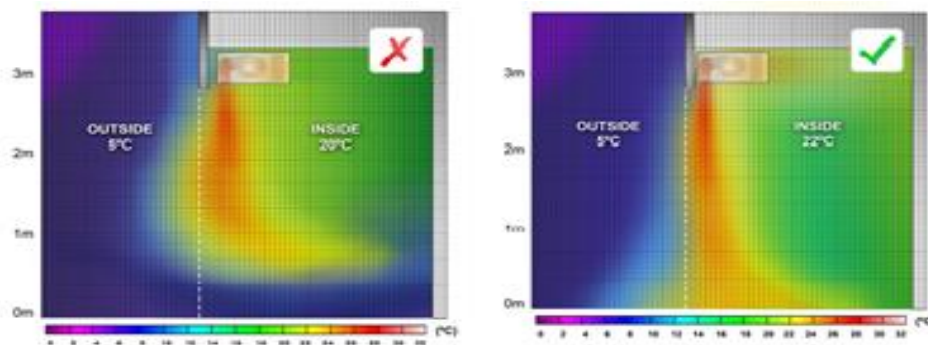
Airflow depends on wind forces, temperature and pressure differences. The pressure differential between the inside and outside of the building is best for air doors work if it is as close to neutral as possible.



Benefits of Air Curtains

Air curtains effectively separate environments and complement the building's primary HVAC system. To remain the door open signals a boom business, but it lets the inside/conditioned air leak out and the outside air seep in. The air curtains prevent the escaping of inside air and entering the outside air. Consequently, the HVAC system will not have to do more work.

The door switch (Limit Switch) is a mechanism to turn the unit on and off as the door opens and closes, so the air curtain operates only while the door is open.



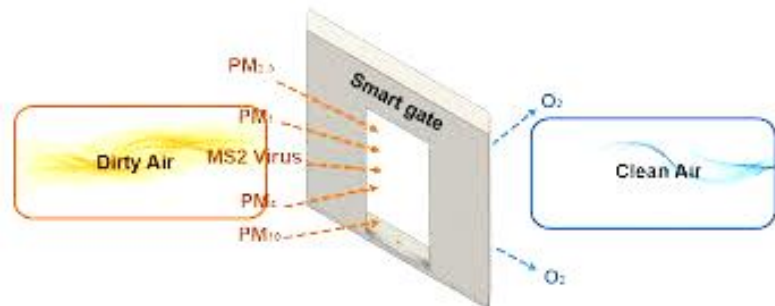
1. Comfortability and healthy Environment

- Customers and staff comfort
 - Helps maintain air quality and adequate environment
 - Pest and insect control
 - Barrier against dust, pollution, fumes and bad odors
- Helps maintain temperature control environment and affect productivity, well-being, performance and sales.

2. Safety:

Air Curtain improves the level of safety on doors where it operates. In cold rooms reduce misting, and prevents ice forming. The stream of air throw keeps the floor free of slipping hazards like water and ice buildup.

The air curtains are an ideal solution for warehouses, for grimy, dirty strip curtains that impair visibility which is dangerous in forklift zones.



3. Bug Out:

Air curtains create a barrier that reduces flying insects, pests, and duct particles from entering without impacting workflow. It also controls the touchless delivery grows. The air curtains complement these doors by creating a barrier that keeps bugs out but allows for unfettered ingress and egress.

4. Germ Control:

The fatal corona virus highlights the dangers of airborne germ contamination. Extraordinary measures were taken to reduce the transmission of airborne pathogens and Powered air purifying air curtains are excellent tools to enhance these measures.

5. Fumes, Dust, Exhaust & Debris Control:

Air curtains prevent the infiltration of heavy amounts of dust, fumes and debris and unwanted byproducts through its air barrier. These elements are prevented from entering areas where people work, gather, which increases overall safety.



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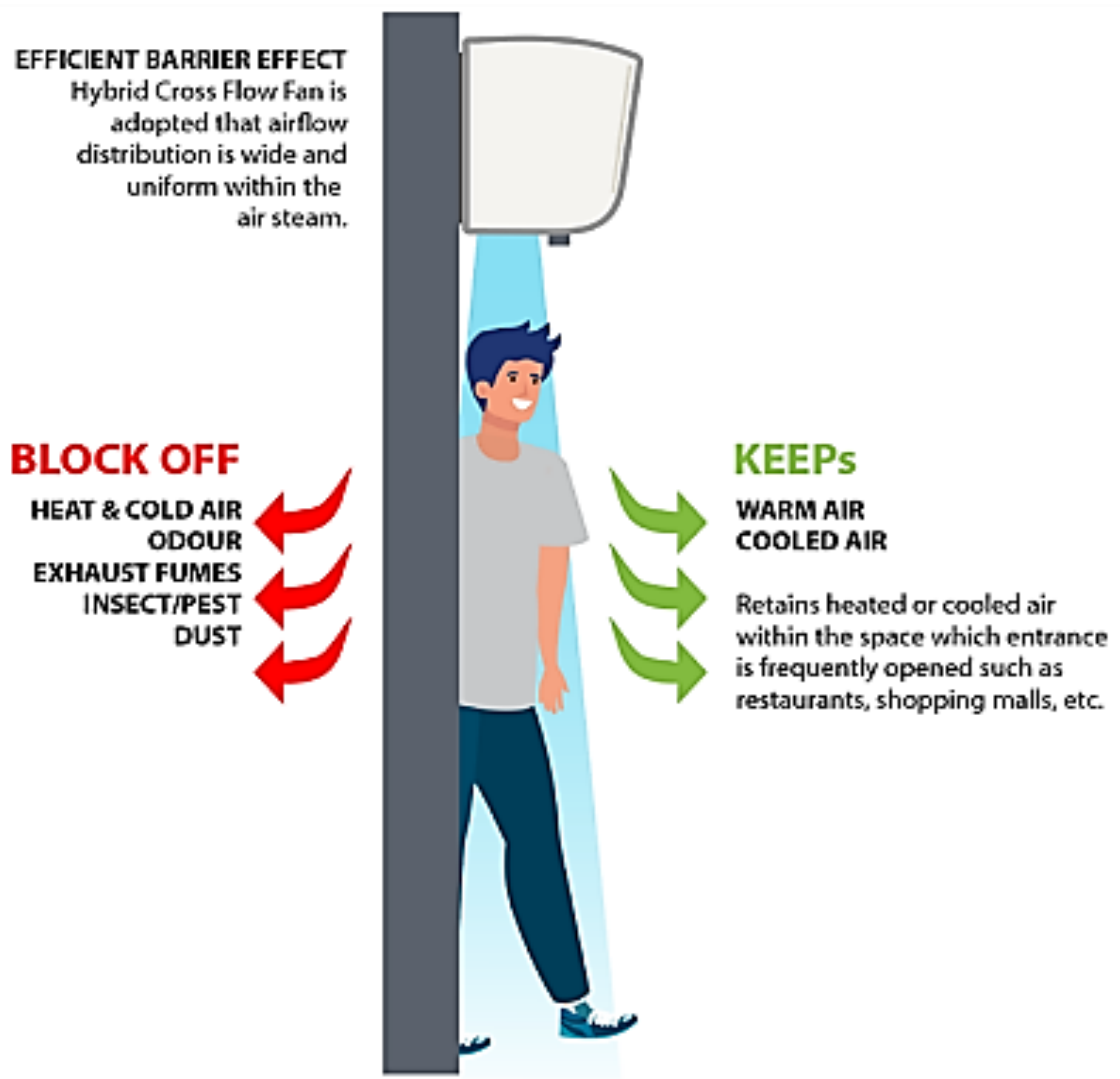
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Types of Air Curtains

1. Industrial Grade Air Curtains:

Industrial grade air curtains are in centrifugal design which provide an self-effecting and largely unseen barrier for the doorways. They are effective up to a height of 5 to 12 feet. They are commonly used in larger doorways such as warehouses, butchers, Food processing Factories, Go-downs, shopping malls, Pharmaceuticals, Hospitals, Laboratories and many more.



2. Commercial Grade Air Curtain:

The key benefit of an air curtain is that it enables to open a commercial from front side during business hours-in order to keep the customers comfortable, regardless of outside temperatures. The air curtains meet the architectural and aesthetics needs of the front of the store. Its major application are in departmental stores, General stores, outlet malls, offices in shopping malls.



3. UVC Air Curtain: UV-C Light System For Air Purification)

This Air curtain is with UVC light. The UVC air curtains improves safety by supporting to eliminate the airborne bacteria and viruses spread in the air. These UVC air curtains are capable to remove up to 99.9% of the airborne Coronavirus (COVID-19) pathogens that pass through the air curtain.

As the germs are pulled into the UVC- air curtains, they are exposed to the UVC light, rendering them inactive. The UVC air curtain expels a barrier of sanitized air. The continual recirculation of air enables to eliminate 99% of airborne viruses.

The UVC- air curtain is made of stainless-steel case and are very useful for BSL -I, BSL -II, BSL -III, BSL -IV Laboratories, clean rooms for healthcare; edible production areas, retail, gyms, restaurants and likewise It provide an added layer of protection against airborne germs.



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Selection Criteria of An Air Curtain

To select an air curtain the following factors should be kept in mind:

- The height and width of the door measured from the discharge diffuser to the floor
- Voltage and electrical power availability.
- Pressure differences between the inside and outside of the building
- Door Characteristics:
 - Door always open?
 - Automatic door? Manual door? Revolving Door.
- The location of the building to determine the level of protection needed against weather conditions.
- Type of business, style and decoration of the premises.
- If the building has several doors in the same, different or opposite façade.
- Characteristics of the ventilation and air conditioning installation

Installation of Air Curtain

The air curtains can be installed either inside or outside depends upon the intended use. The Air Curtains should be mounted inside when we intend to prevent temperature loss by creating a thermal barrier. The barrier of air don't enter the outside environmental affects air inside the room. It is very commonly used in factories, stores, offices and likewise.

Outside installation is required when used over freezer doors because when mounted inside, the fans tend to gather moisture and freeze, eventually forming a snowball around the fan, causing it to lose operational efficiency. Air Curtains installed outside offer a better prevention to mosquitoes and flies.

The rain hood cover is required when installed outside, so that rain or chances of water should not ingress in the machine.



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Precautions:

Following preventive measures should be adapted before installation of the Air Curtain unit:

- The installation team should wear the necessary safety dress to avoid accident. The PPE(Personal Protective Equipment's) like Gloves, Safety glasses and shoes, earplugs or muffs, Hard hats, Vest etc. prevent injury during work.
- Examine the building structure is solid and robust.
- Ensure that air curtain covers full height and width of the door
- The fitting of back plate should be tighten and not loose/vibrate while unit is in operation.
- There should not be any space or gap between back plate and the solid wall.
- The air curtain should be installed in horizontal position and do two way level. 1-Place levels on straight way horizontally. 2. Level vertically/ perpendicularly
- Mount the air curtain ½ to 2 inches above the doorway.
-



Conditions to use:

1. Air curtain doesn't work in all wind conditions. e.g. the air curtain will not work properly if the air pressure outside is higher than the air pressure inside.
2. Air doors work best when the pressure differential between the inside and outside of the building is as close to neutral as possible. Oily smoke, materials, corrosive gases may cause explosion.
3. Air curtain should not be used over +55 °C and below +1°C (minus Temperature).
4. Other conditions and applications apply as per ASHRAE Standards.

Technical Parameters of Air Curtains

Model	Length (Feet)	Dimension (inch)	Frequency (Hz)	Air Volume CFM Range	Voltage (V)
ATAC-324	3	36X14x10	50	2500-2700	220-240
ATAC-424	4	48X14 X10	50	2700-2800	220-240
ATAC-524	5	60x15x12	50	2900-3000	220-240
ATAC-624	6	72x15x13	50	3000-3200	220-240

Applications

The Suitable application of the Air Curtains in the Industrial & Commercial Sectors:

Hotel & Restaurant	Laboratories
Food Factories	Pharmaceuticals
Medical Clinics	Sweets, Bakeries & Confectionaries
Cafeterias	Textile sectors
Departmental stores	Sports Centers
Medical Testing Labs	Commercial buildings
Education Institutions	Research & Development sector
Chemical Industrial sectors	Digital Textile printing Machine rooms
Butchers	Shopping Malls
Grocery stores	Air Ports
Schools & cafeterias	Hospitals



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A Few References of our Clienteles

Pinehills Food (Pvt) Ltd	 
Tariq Glass (Toyo Nasic) Baluchistan	 
Blume Agri(Pvt) Ltd Descon	 
Faiz Surgical & Medical Industries (Pvt) Ltd	
Pakistan Fast Cool (Pvt) Ltd	