

**AERIAL**



Certified by UL  
Listed in the US and Canada



# AIR CURTAIN

Product line Aerial Titan 2 Series

## INSTALLATION MANUAL



Thanks for purchasing this Air Curtain.  
Please read these instructions  
carefully before installing.

**DURASTEEL**  
QUALITY YOU CAN SEE



# **STOP and READ**

## **TEST BEFORE INSTALLATION!**

- 1. Plug in 120V power source (certain old air curtains might use 240V, verify the power voltage if not sure); press the switch to H or L to test it. If the air curtain works normally, refer to section 4 through 8 to install the air curtain.**
- 2. After installation, if the air curtain doesn't run, the first step is to check the magnetic switch.**
- 3. For troubleshooting, please refer to section 10.**
- 4. For technical support, please refer to section 12.**

**PLEASE READ AND SAVE THE INSTRUCTION.**

**Please test the unit before installation.**



# **WARNING**

**TO PREVENT THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PEOPLE, READ THE FOLLOWING CAREFULLY before attempting to assemble, install, operate or maintain the product.**

- 1. Always disconnect, lock and tag the power source before installing or servicing the product.**
- 2. Installation work and electrical wiring must be done by qualified electrician(s) in accordance with all applicable codes and standards, including fire-rated construction.**
- 3. When cutting or drilling into a wall or ceiling, do not damage electrical wiring and other hidden utilities.**
- 4. Do not use this fan with any solid-state speed control device.**
- 5. Repair and maintenance operations can only be performed by qualified personnel.**
- 6. Verify and ensure the rated voltage and frequency (please refer to the rating label) of the air curtain is in compliance with the mains supply.**
- 7. Make sure the air curtain is securely mounted on the wall.**

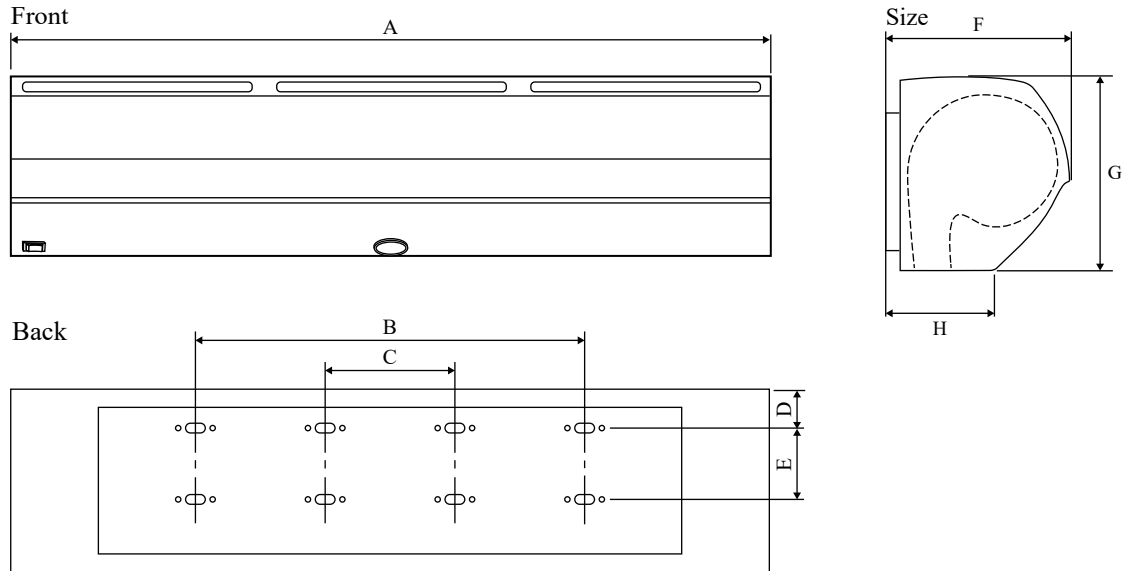
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## 1. PRODUCT INTRODUCTION

An air curtain is also called an air door which is a fan-powered device that creates an invisible air barrier over the doorway to efficiently separate two different environments. It can keep indoor air quality and prevent outdoor heat/cold air, dust, bug, etc. Compared with a door without an air curtain, an air door can save 80% energy.

## 2. PRODUCT DIMENSIONS



MODEL	A	B	C	D	E	F	G	H
ACR-FHN-1901I	900	695	---	74	100	215	230	123
ACR-FHN-1903I	1000							
ACR-FHN-1904I	1200							
ACR-FHN-1909I	1500	1285	504					
ACR-FHN-1901I-BLK	900	695	---	74	100	215	230	123
ACR-FHN-1903I-BLK	1000							
ACR-FHN-1904I-BLK	1200							
ACR-FHN-1909I-BLK	1500							

Unit: mm

## 3. PRODUCT SPECIFICATION

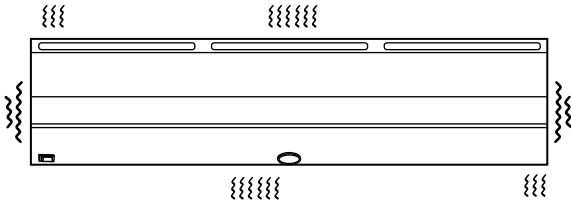
MODEL	Volt. (V~)	Freq (Hz)	Max input power (W)		Max air speed (m/s)		Air volume (m3/h)		Noise (dB)		Net weight (Kg)
			H	L	H	L	H	L	H	L	
ACR-FHN-1901I	120	60	280	240	16	13	1100	900	53	50	13.0
ACR-FHN-1903I			300	260			1200	1000	53	50	13.5
ACR-FHN-1904I			350	315			1500	1200	53	50	15.5
ACR-FHN-1909I			460	420			1900	1500	55	52	20.0
ACR-FHN-1901I-BLK	120	60	280	240	16	13	1100	900	53	50	13.0
ACR-FHN-1903I-BLK			300	260			1200	1000	53	50	13.5
ACR-FHN-1904I-BLK			350	315			1500	1200	53	50	15.5
ACR-FHN-1909I-BLK			460	420			1900	1500	55	52	20.0

#### 4. INSTALLATION CAUTION

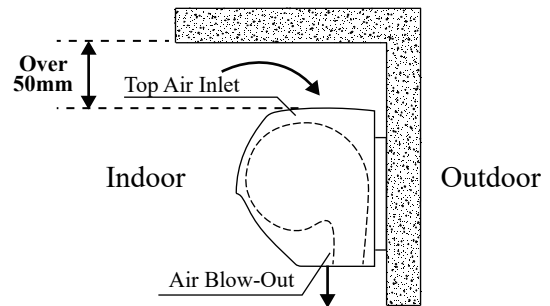
Must observe the following when installing air curtains:

Please test the unit before installation to ensure the air curtain works for you.

- ① Please install the unit on sturdy support to ensure its security and avoid shaking. If shake or noise is observed after installation, please make sure all screws are tightened for safety.

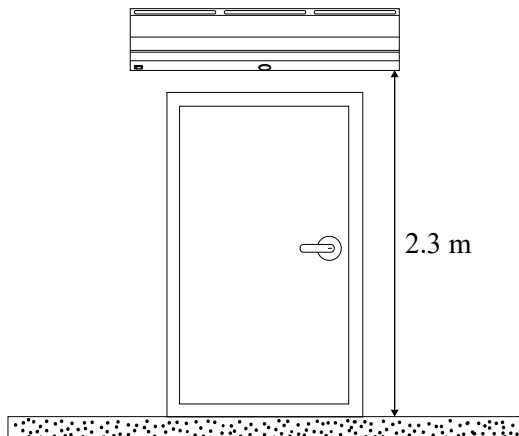


- ② The unit can be installed indoors or outdoors under the rooftop. The rooftop must prevent rain or liquid of any kind from the unit. A good outside installation example is on top of the Drive-thru window of fast food restaurant.

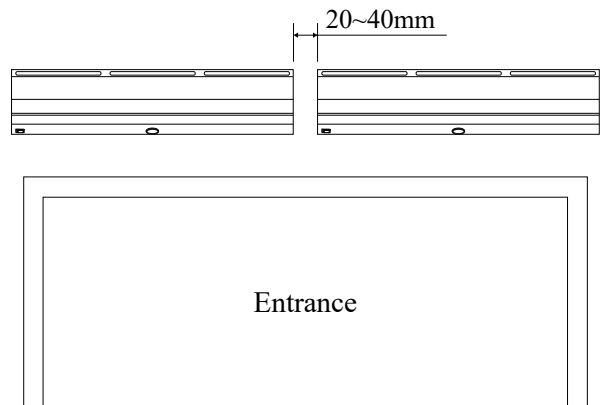


Require 2 inches clearance to the ceiling.

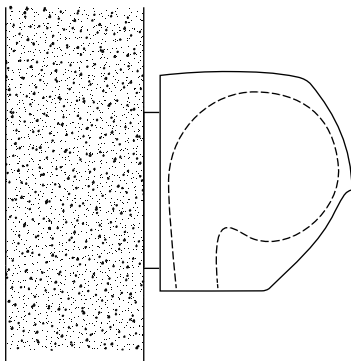
- ③ The bottom of the unit is recommend to be 2.3 meters above the ground for best result.



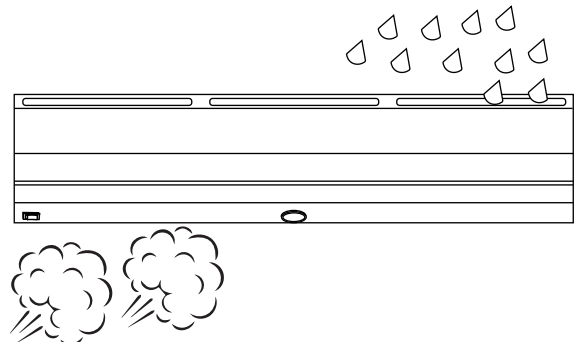
- ④ When the entrance is wider than the unit, it is recommended to install two or more units side by side with 20-40mm gaps between the units.



- ⑤ Please ensure the unit is fully attached to the wall for safety. If you observe gaps between the unit and the wall, please re-attach the unit to the wall immediately.



- ⑥ Exposing the unit to excessive steam, explosive gas, corrosive gas, or water splash is hazardous. Please install the unit in an environment where it is free from such conditions.

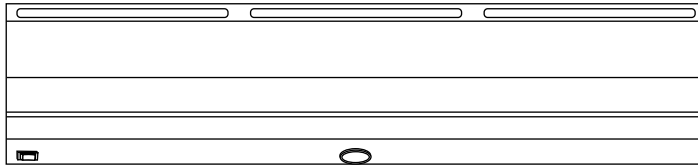


## 5. INSTALLATION GUIDE

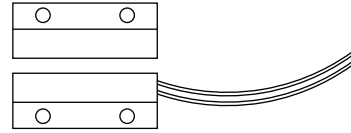
Please follow the instructions for your mounting type.

Please prepare suitable hardware on your own to fit your support. Ensure the entire setup including the wall, and the mounting kit itself can hold the weight of air curtains.

### A. Unboxing and Checking



Air Curtain (with mounting plate at the back)

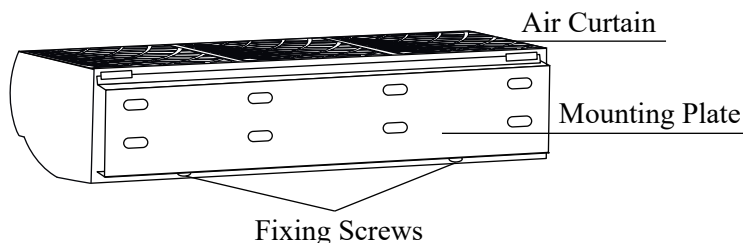


Magnetic Door Switch

\*Please consult with professional electrician for 120v..

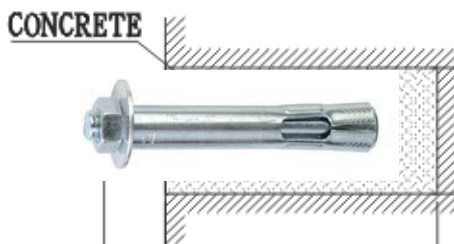
### B. Remove the Mounting Plate

Loosen the bottom fixing screws of the mounting plate then remove the entire mounting plate from the unit. Please keep the fixing screws which have to be tightened back at the last step.

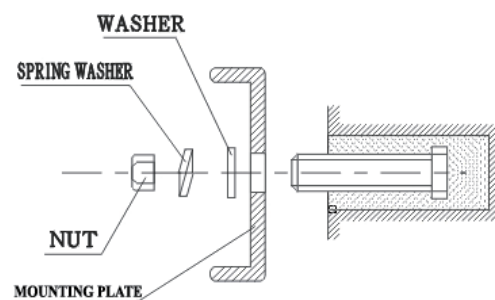


### C. Installing Mounting Plate on the Concrete Wall

- ① Put the mounting plate in the proper position and then mark the position of the screw on the wall. Drill holes and insert suitable screws and anchors. (Recommend using Zinc Plated Steel Hex Nut Sleeve Anchor.)



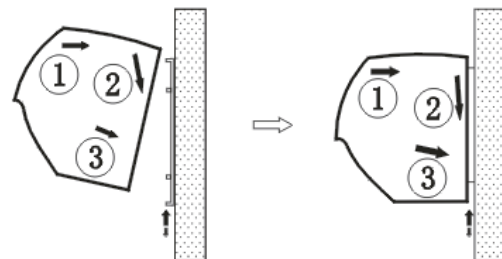
- ② Tighten the nuts to secure the mounting plate to the wall (using the washers and nuts as the Figure shows).



### D. Complete Installation

Hang the main body onto the upper end of the mounting plate, and then tighten the fixing screws to the bottom of the mounting plate.

The installation of the main body machine is done. Please refer to Page 5, continuing to install the door switch.

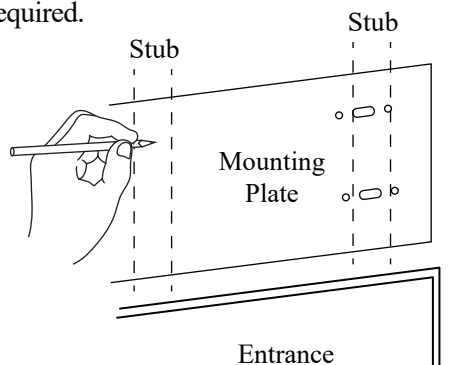


**WARNING: Please mount the bracket and air curtain securely to ensure a safe environment. Following the installation guide will prevent the unit from falling and causing injury to a person.**

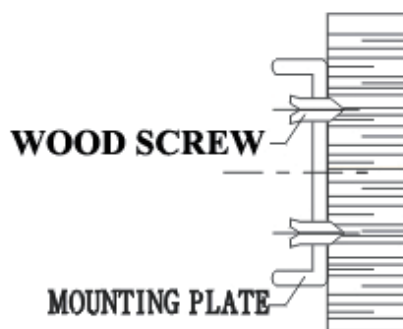
### E. Installing Mounting Plate on the Wood Wall or Drywall

Ensure the wood screws are secured in the wood studs, drill holes on the mounting plate to align with the wood studs, and attach an extra wood frame to the wall if needed. If the screws aren't secured in the wood studs, please make sure the hardware you use is able to hold the weight of the main body.

- ① Use a stud finder to find the position of the studs. Put the mounting plate in the proper position, and mark the hole positions of stubs on the wall, and also on the mounting plate for drilling if required.



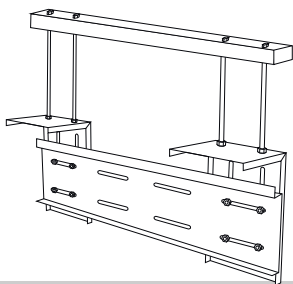
- ② Drill the hole of the stub on the mounting plate. Attach the mounting plate on the wall, and then drive the wood screws into the wall to secure the mounting plate. Refer to Step D to complete the main body installation.



### F. Hanging from the Ceiling or Using Side Mount Bracket

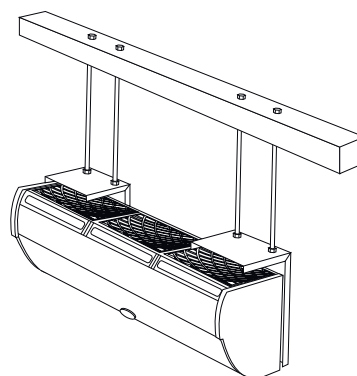
The ceiling bracket and side mount bracket are not included. The ceiling bracket is sold separately.

- ① Ceiling Mount - Mount the ceiling ropes to the studs in the ceiling securely, and then attach ceiling brackets to the ropes. Please ensure the assembly is safe and stable.

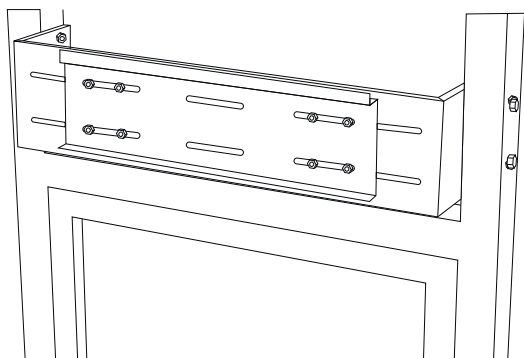


Ceiling rope and hardware are not included.

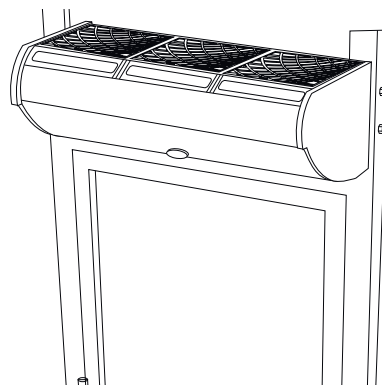
- 2 Ceiling Mount - Refer to Step D to complete the main body installation.



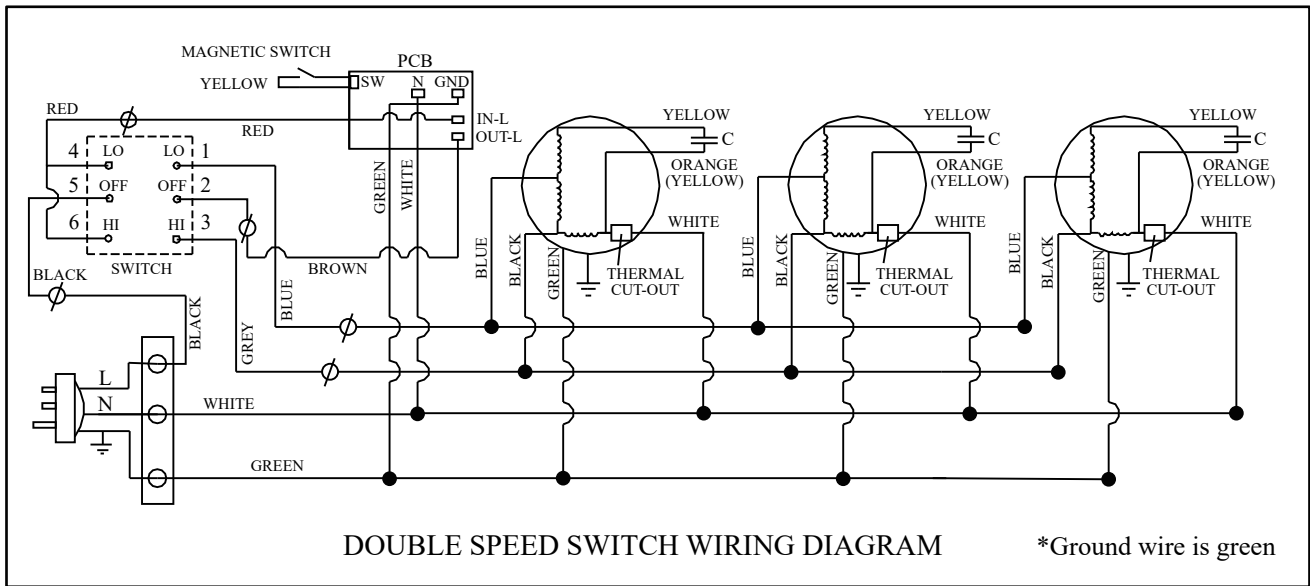
- ③ Side Mount - Installing the side mount frame to the top of the door securely.



- ④ Please refer to Step D to complete the main body installation.



## 6. WIRING DIAGRAM

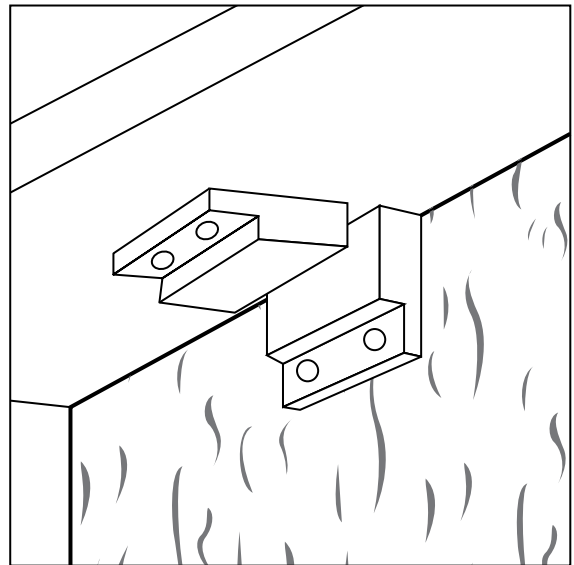
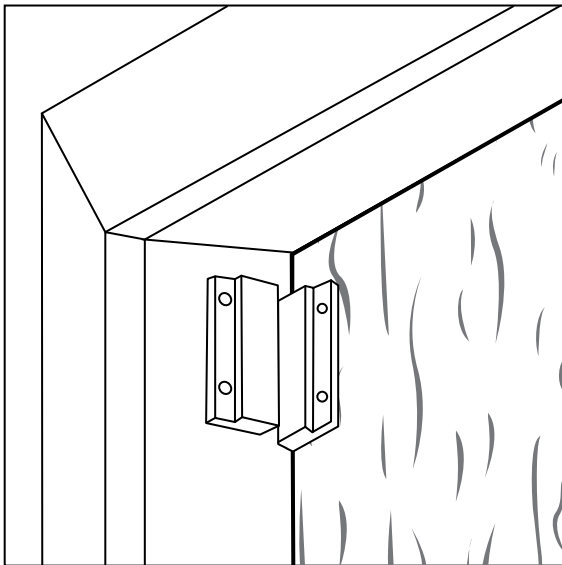


## 7. MAGNETIC SWITCH INTRODUCTION

A magnetic switch is an electrical switch that makes or breaks contact in the presence of a magnetic field. It is easily applied to any kind of door, such as swing doors, sliding doors or roll-up doors, etc.

DuraSteel magnetic switch is 12V DC which is safer, and no hard-wired is required. Also no mechanical contact. It works even if the door does not close entirely; just install it closer to the door hinges.

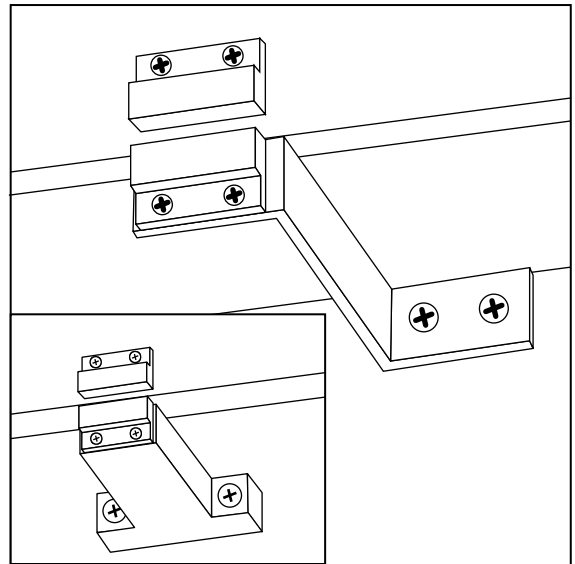
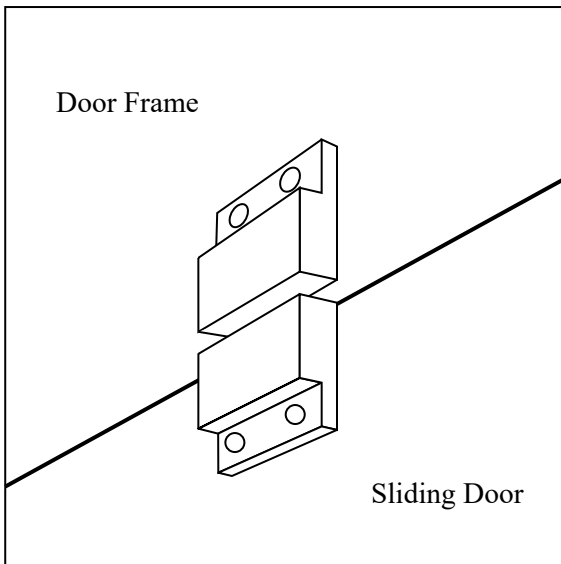
Do not place the magnetic switch close to the alarm sensors. The alarm sensor magnet will interfere with this magnetic door sensor.



The two pieces of the magnetic switch can be attached in parallel or at 90 degrees. However, ensure there is one side of the piece in parallel with the other piece.

Please place two pieces of the magnetic switch as close as possible; ensure the gap between the two pieces are lower than 1mm.

If the side of two pieces can't be placed in parallel, please use a bracket to raise one piece.

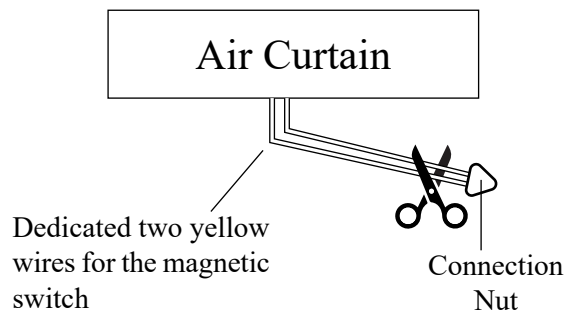


## 8. MAGNETIC SWITCH INSTALLATION

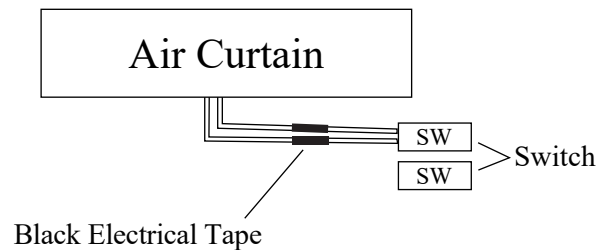
This model comes with a magnetic door switch. Please contact DuraSteel if the magnetic switch is missing. The two yellow wires are 12V DC and are dedicated to connecting the magnetic switch only. Note: Keep the two wires connected (closed) if the magnetic switch is not used.

If a polarity switch is used, the power cord should be connected to the charging line directly. The polarity switch is required with a minimum 3 mm contact gap of the switch, and must be installed in the charging line.

- ① Cut the nut off from the two yellow wires which are on the top of the air curtain.

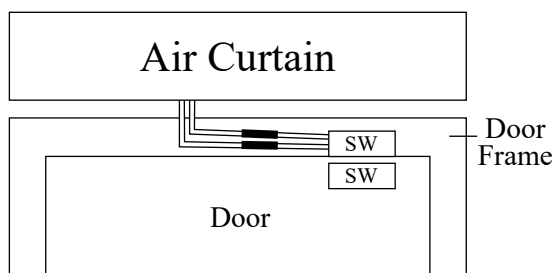


- ② Connect the wires one-to-one to the magnetic switch; either side is ok. Apply black electrical tape to seal the connection.

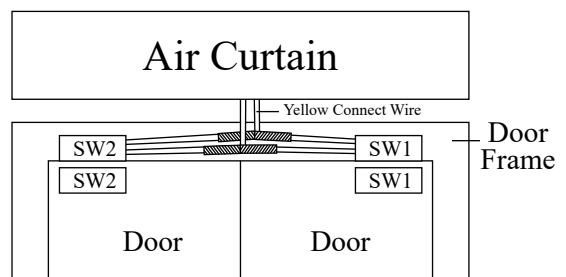


The current magnetic switch is 12V low voltage doesn't require hard wired.

- ③ Attach the two pieces of the magnetic switch to the door/window edge and frame. Ensure the two pieces are on the same surface. Test to find the perfect position to place the magnetic switch.



- ④ Each air curtain includes one switch. If you would like to use one air curtain to two doors, please purchase an additional switch for the other door and then attach the other switch to the same yellow wires one-to-one in parallel.



## 9. OPERATION INTRODUCTION

- Turn on the power switch
- Select the best speed : High[H] 、 Low[L]
- According to the installed position, adjust the louver to get the best effect.
- Use the unit at the rated voltage and frequency indicated on the rating label.

## 10. TROUBLESHOOTING

Failure Symptom	Possible Causes	Troubleshoot and Solution
Magnetic switch malfunction periodically	The magnetic switch is damaged or close to an alarm sensor	Keep 2 to 3 meters away from alarm sensors. The alarm sensor magnet will interfere with it. Remove the magnetic switch connection and test if the magnetic switch is defective.
The air curtain doesn't turn on. (Make sure your power outlet is 120V before plugging it in. Some old air curtains might use 240V)	The magnetic switch is damaged or loosened the connection	<u>Remove the magnetic switch connection, directly connect the two yellow wires together, then test the air curtain.</u> 80% of the failure is due to the magnetic switch setup. Use suitable screws, and make sure the connection is secure.
	Check if the front switch is function	The L/Off/H (or On/Off) switch might be burnt out in a few years if used frequently. Please test the switch.
	Circuit board failure or no power to the circuit board	Toggle the magnetic switch and the front switch; if you hear "Tic-Tac" sounds from the relay on the circuit board means it is electrified. No sound means no power to the motor from the circuit board. Please check if the power gets into the IN_L(Hot) and IN_N(Neutral) pins.
The motor doesn't run. But if pushing the fan wheel, the motor slowly rotates or rotates reversely	Startup capacitor is not connected securely or damaged	Check if the two yellow/orange wires securely connect to the capacitor under the motor. Remove the fan wheels and motor to get access if needed.
After above troubleshoot processes, motor still doesn't turn on	Motor malfunction	The chance of motor malfunction is very low, Use an Ohm meter to measure the continuity between the motor's black wire and the white wire to check if it is open. Open means damaged.

**Open the cover and changing the blower are required technique skills and some special tools. If you are a technician, please contact DuraSteel technical support for repair instructions.**

## 11. MAINTENANCE AND CLEANING

- Any service is to be performed only by licensed & qualified personnel who are familiar with local codes and regulations and are experienced with this type of product (appliances use electric motor).
  - Always unplug or disconnect the appliance from the power supply before servicing or cleaning the unit.
  - Routine maintenance must be done every year.
- 
- Do not use petrol, benzene, thinner, or any other chemical to clean the unit.
  - Do not allow water or any liquid to enter the motor.
  - Plastic parts should be cleaned with mild soap water, and thoroughly remove the soap film with a clean damp cloth.
  - Wipe the exterior surfaces of the fan with a moistened cloth with a solution of mild detergent and water.
  - Dry the case with a soft dry cloth before operating the unit.

## 12. SUPPORT AND CONTACT

- Contact your local seller for exchange or repair.
- Visit [www.facebook.com/DuraSteelUSA](https://www.facebook.com/DuraSteelUSA) or [www.instagram.com/durasteel](https://www.instagram.com/durasteel) for the most updated information. You can also scan the QR code below to visit DuraSteel Facebook or Instagram Fan Page.



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