

READ THIS FIRST

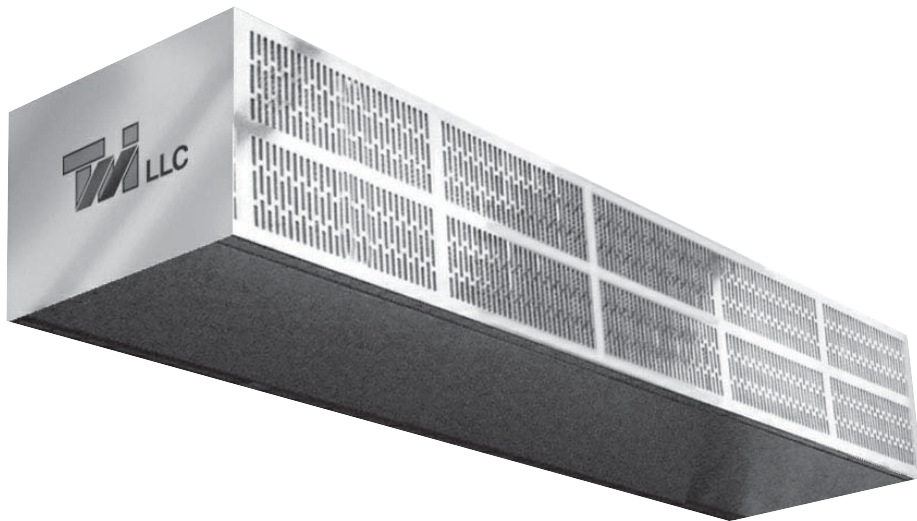
Carefully examine the crate(s) for damage before opening. If the carton is damaged, immediately notify shipping company. If the unit(s) were shipped on wooden skids, remove protective wood and banding straps securing the carton(s) to the skid. Open the carton(s) and remove all protective packaging. Immediately verify that the electrical rating nameplate located on the cover matches electrical power supply available. Retain the shipping carton(s) until the unit(s) is installed and properly operating. TMI, LLC is not responsible for delayed or late claims.

Read and Save These Instructions

SAVE-T[®]

AIR CURTAINS

INSTALLATION INSTRUCTIONS S-LP SERIES



TMI, LLC
Managing Environments™

Serial No: _____ Model #: _____ Date Purchased: _____

Warning

To Reduce the Risk of Fire, Electrical Shock, or Injury, Observe the Following:

- Use this unit only in the manner intended by the manufacturer. If you have any questions, contact the manufacturer.
- Before servicing or cleaning unit, switch power off at the service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
- Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction. Units must be field wired in accordance with all local National Electric Codes, including wire size and materials. Units can accept 1/2" conduit by punching out the knockouts on top or either side of unit. Wires from conduit are to be run to junction box inside of unit.
- Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent back drafting. Follow the heating equipment manufacturer's guideline and safety standards such as those published by the National Fire Protection Association (NFPA), and the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and local code authorities.
- When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities. Do not operate this fan with any solid state speed control device.

Uncrating and Unpacking

Please read the "READ THIS FIRST" note on the front cover of this manual before proceeding.

Carefully remove as much of the crate as possible so the inlet screws are exposed. Use a Phillips head screwdriver to remove the screws that hold the intake grill in place. Remove the grill and applicable filter(s). Place the screws in a safe place. (See Fig. 1)

Use a 3/8" socket and extension to remove four (4) lag bolts that hold the unit to the skid. The air curtain is now ready for installation. Use caution. Do not grasp the unit by the blower wheels. They will bend, pulling the unit out of balance and alignment. (See Fig. 2)

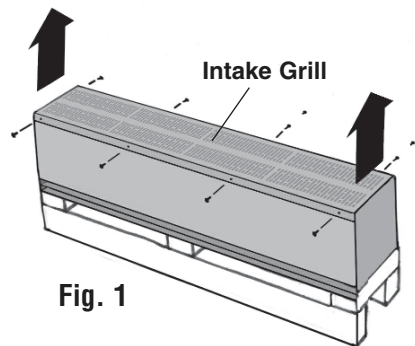


Fig. 1

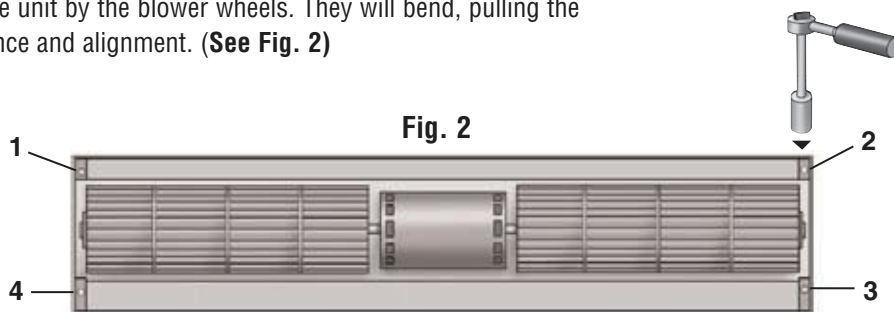


Fig. 2

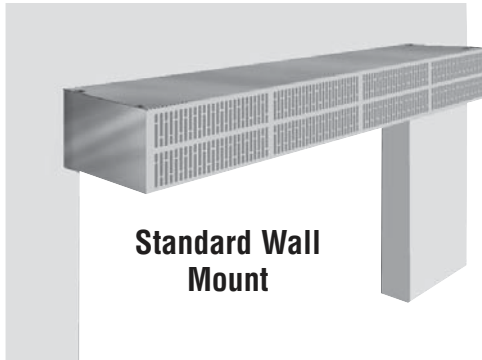
The air curtain is now ready for installation.

IMPORTANT NOTE

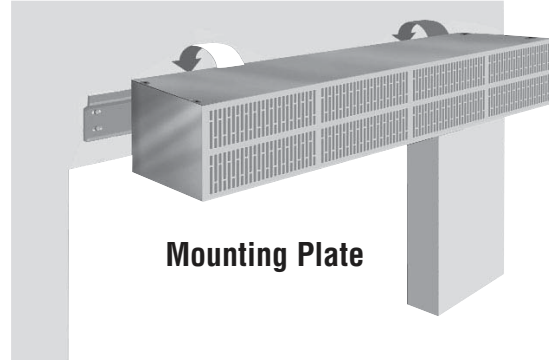
If the air curtain(s) was ordered with optional electrical components and accessories (door switch, control panels, mounting brackets, etc), the accessories may be found in the crate containing the air curtain or in an additional crate or box. Check all of the crates and boxes before disposing

Mounting Methods

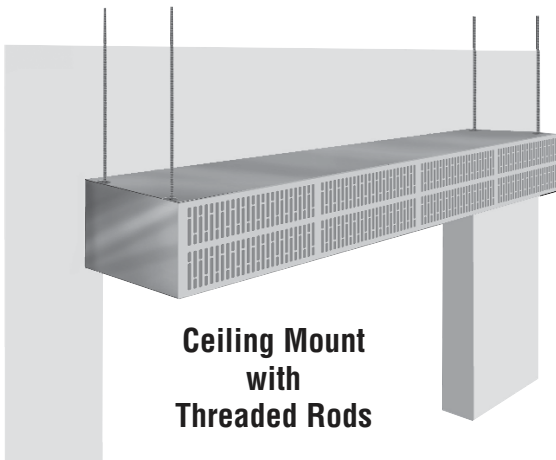
How your Air Curtain is mounted depends on your doorway opening and what equipment or obstructions are in the way. Below are the standard methods of mounting. All mounting methods will require additional hardware to complete the mounting operation. Lag screws, hex bolts, washers, nuts and threaded rod can be supplied by others, but wall brackets, extension bars and extension plates will have to be ordered from TMI, LLC. Check with a sales representative at 1-800-888-9750



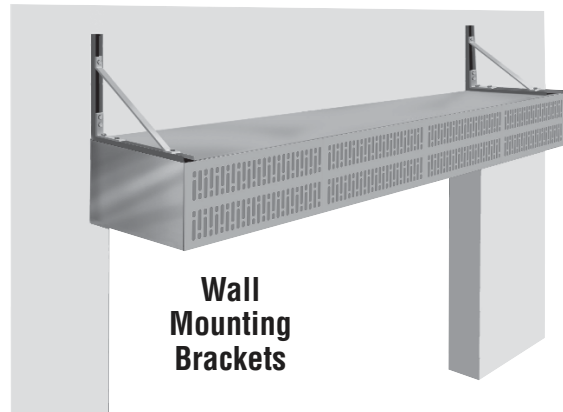
Standard Wall Mount



Mounting Plate

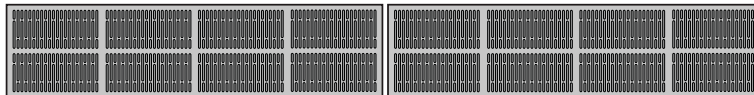


Ceiling Mount with Threaded Rods



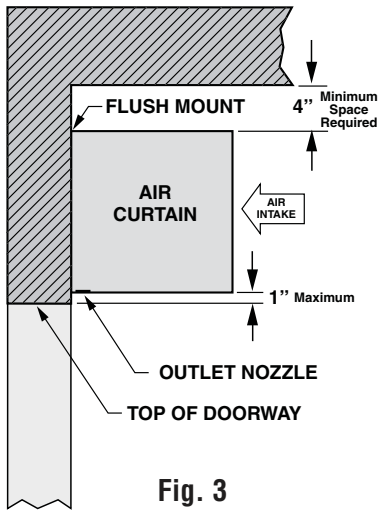
Wall Mounting Brackets

Tandem Mounting



If your installation requires tandem mounting, there should be no space between units. Wall mounting brackets cannot be used. Also keep in mind that the wiring must go from the master unit to the slave unit by using jumper wires.

Mounting Notes

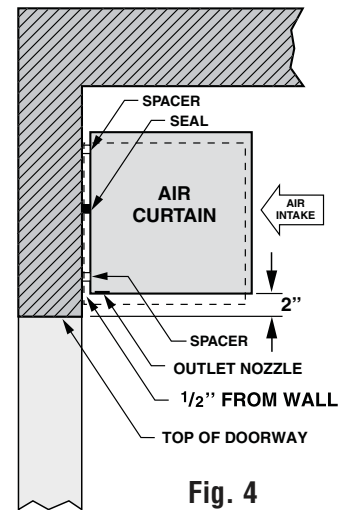


IMPORTANT

A minimum of 4" (8" preferred) is recommended above the top of the air curtain for the installation and removal of the screen or to gain access to junction boxes.

For optimal performance, the bottom of the unit (discharge nozzle) should be no more than 1" above the top of the door opening with the unit mounted flush to the wall. **(See Fig. 3)**

If the unit must be mounted higher, it must be spaced out from the wall 1/2" for every inch the unit is above the door opening. Also a seal must be placed between the entire length of the unit and the wall. **(See Fig. 4)**



1. Units may be attached to the wall directly, suspended from overhead, or supported by brackets. The style of door will determine the best mounting method and; as a general rule, use the mounting configuration that positions the air curtain as close to the top of the doorway as possible without interfering with door operation.
2. To achieve optimal protection, the unit should be mounted on the inside of the building, flush to the wall and as close to the top of the door opening as possible.
3. To ensure peak performance, keep the air stream free of obstructions. Make sure that nothing interferes with the curtain of air. If the air curtain cannot be installed flush with the wall, be sure to seal the gap between the wall and the back of the air curtain along the entire length of the unit to prevent airflow through this void. **(See Fig. 4)**. The discharge vane is directed from 0° to 20° toward the door opening. If the air stream strikes any obstruction (the top edge of the doorway, a door opening device, etc.), the effectiveness of the unit will be greatly reduced.
4. The air curtain will not perform properly if negative air pressure exists in the building. Under these conditions, a means for makeup air to the building must be provided so that the air pressure on both sides of the opening is in balance.
5. Before mounting the air curtain, check the supporting structure to verify that it has sufficient load-carrying capacity to support the weight of the unit(s). The mounting hardware (may be supplied by others) should be capable of supporting a minimum of three (3) times the weight of the unit.

Standard Wall Mounting

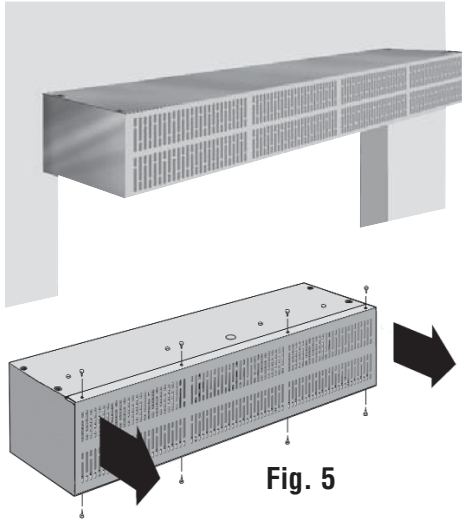


Fig. 5

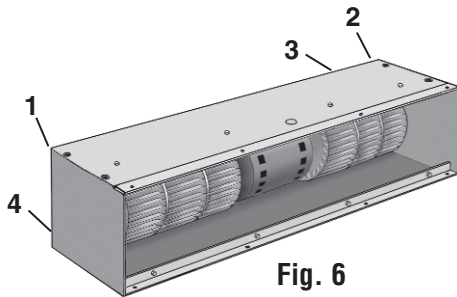


Fig. 6

1. Remove the screws that hold the intake grill in place. Remove the grill and applicable filter(s). (See Fig. 5)
2. The rear side of the air curtain has four (4) mounting holes that can accept (4) four $\frac{3}{8}$ " mounting bolts or lag screws with washers. Place the Air Curtain into position, above the door opening. Using a pencil, mark the (4) four mounting holes. (See Fig. 6) Remove the unit. If using lag screws, pre-drill the mounting holes. If using mounting anchors, drill the holes and place the anchors.
3. Again place the Air Curtain into position. Using a ratchet and socket with a long extension, screw the unit to the wall. (See Fig. 7) The socket extension should allow you to install the unit without having to remove the motor/blower plate.

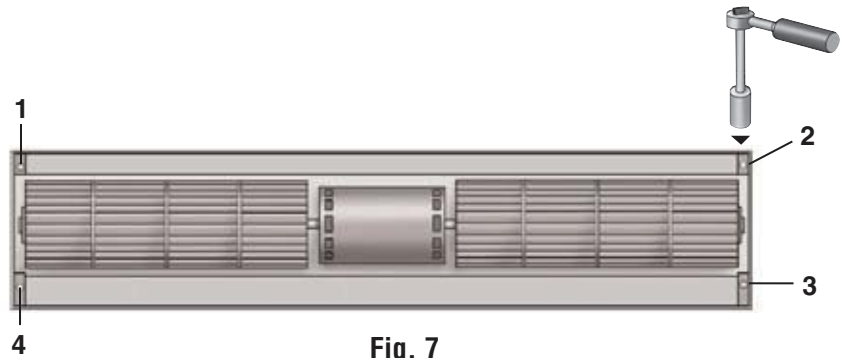


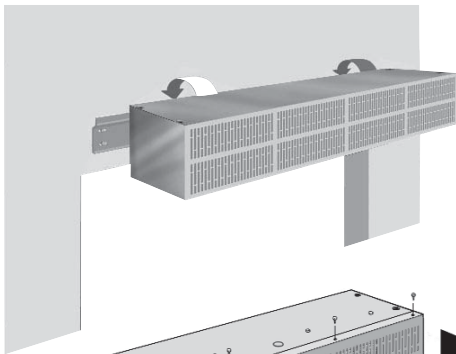
Fig. 7

NOTE: Mounting bolts or lag screws of sufficient size and strength should be installed and tightened through the (4) four $\frac{7}{8}$ " holes in motor/blower plate.

If motor/blower plate has to be removed, the electrical switch(es) might be in the way. The switch(es) has a lever that slides in one direction to release the switch contacts from the switch body. All wires will stay intact, making replacing the blower plate easy. Remove $\frac{7}{16}$ " whiz lock nuts holding plate in place and slide the plate out. Rotate the top portion of plate so it comes out first. Remember when installing the plate to put the bottom of the plate in first and push and rotate the top of the plate in last.

The unit is now ready to be wired. See page 10. It must be field wired in accordance with all applicable local, state, provincial, and national laws, including wire size and materials.

Mounting Plate Method



This mounting method would primarily be used when the unit is being attached to a studded wall with drywall surface. The lower part of the mounting plate can be securely attached to the wall studs using the elongated mounting holes to assure a firm attachment.

1. Remove the screws that hold the intake screen in place. Remove the grill and applicable filter(s). (See Fig. 8)

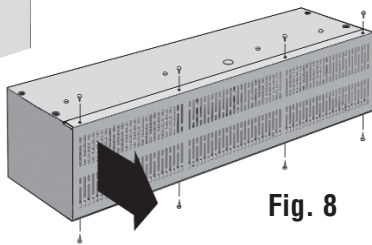


Fig. 8

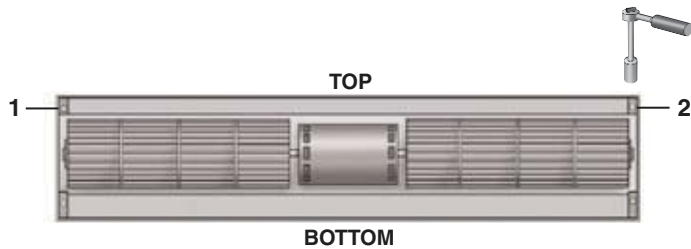


Fig. 9

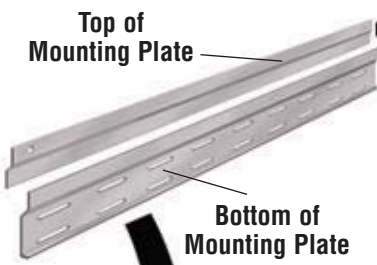


Fig. 10

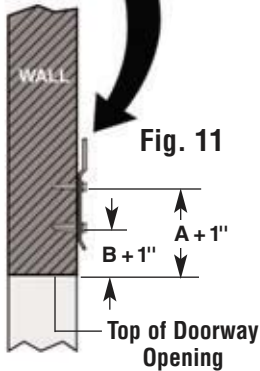


Fig. 11

2. Attach the top mounting plate to the back of the air curtain. Place $\frac{3}{8}$ " hex bolts through the two (2) mounting holes and secure the plate with washers and hex nuts. A ratchet and socket with a long extension may be necessary to secure the plate. (See Figs. 9 & 10)

3. Temporarily place the bottom half of the mounting plate into position under the top half of the mount plate that is already attached to the air curtain. Measure from the bottom of the air curtain to the two (2) rows (A & B) of mounting holes. (See Fig. 11)

4. Measure and mark the four (4) holes (See Fig. 12) above the top of the doorway opening (A+1" & B+1"). The pre-punched oblong mounting holes allow the plate to be mounted no matter where studs or structural supports are located. Attach the bottom mounting plate to the wall.

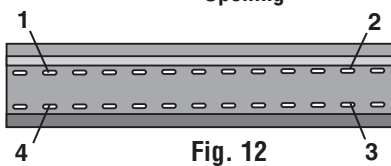


Fig. 12

NOTE: Make sure you have sufficient space between the mounting plate and the ceiling. The bottom of the air curtain should be mounted 1" above the doorway header.

5. Place the air curtain over the bottom wall mounting plate. The top and bottom plates will lock into place supporting the weight of the air curtain. (See Fig. 13)

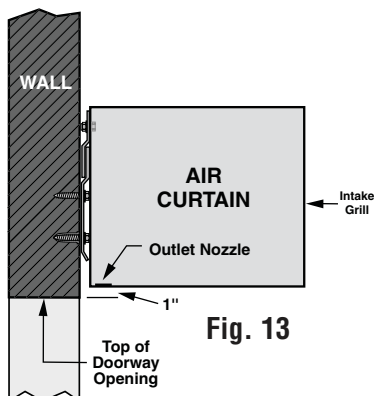
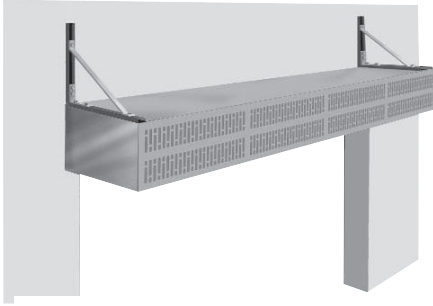


Fig. 13

The unit is now ready to be wired. See page 10. It must be field wired in accordance with all applicable local, state, provincial, and national laws, including wire size and materials

Mounting Brackets Method



Mounting brackets are optional equipment and can be acquired from TMI, LLC or a third party. If using third party equipment, be sure it is compatible with mounting holes for safety purposes.

This mounting method would be used when the unit is being attached to a solid wall such as cement block or poured concrete. The mounting brackets make mounting extremely fast and easy.

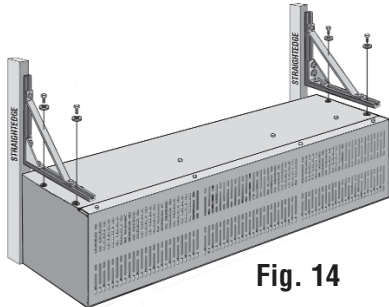


Fig. 14

1. Using a straight edge, align the back of the bracket with the back of the air curtain so they are flush. Using threaded inserts along with four $\frac{3}{8}$ " x 2" hex bolts, attach the brackets to the top of the air curtain . (See Fig. 14)

2. Place the air curtain into position. The bottom of the air curtain should be even with top of the doorway opening (header). Using a pencil, mark the 4 mounting holes. (See Fig. 15) Remove the unit. If using lag screws, pre-drill the mounting holes. If using mounting anchors, drill the holes and place the anchors.

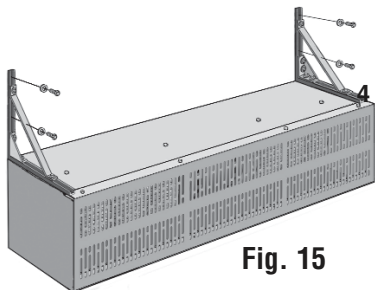
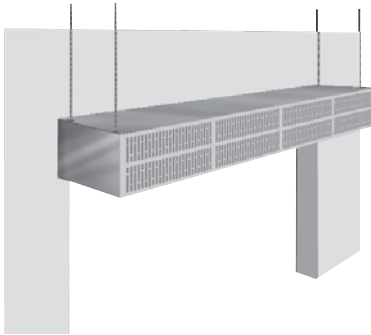


Fig. 15

3. Again place the air curtain into position and screw the brackets to the wall.

The unit is now ready to be wired. See page 10. It must be field wired in accordance with all applicable local, state, provincial, and national laws, including wire size and materials.

Ceiling Suspension Mounting



Threaded rods are optional equipment and can be acquired from TMI, LLC or a third party. If using third party equipment, be sure it is compatible with mounting holes for safety purposes.

This mounting method would be used when the Air Curtain cannot be attached directly to the wall. If the unit is slightly away from the wall, there must be a seal between the unit and the wall. See Fig. 5, page 4.

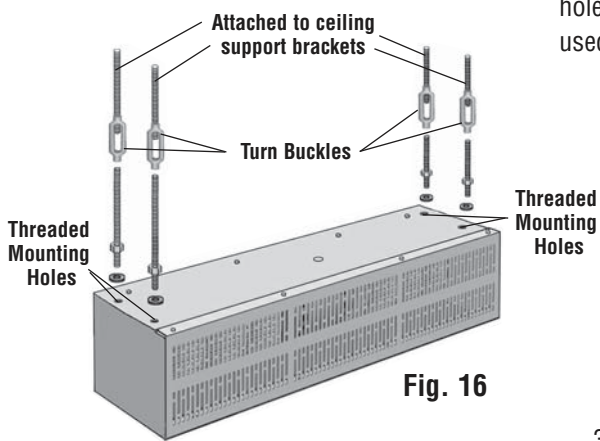


Fig. 16

Since the threaded rods are screwed into place using the threaded mounting holes on the unit and beam brackets on the ceiling, “turn buckles” must be used (supplied by others).

1. Place the unit temporarily in position to take measurements for cutting the threaded rods. Take the size of the turn buckles into consideration. (See Fig. 16)

3. Screw the top rods into the ceiling brackets (supplied by others). (See Fig. 17)

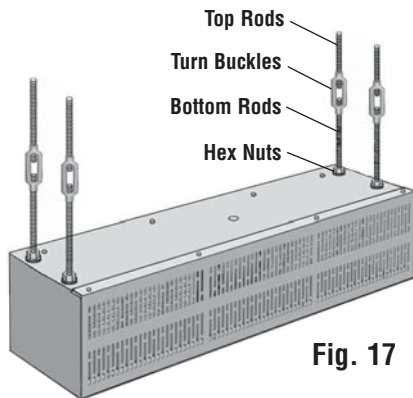


Fig. 17

4. Place hex nuts on each bottom threaded rod at least $\frac{3}{4}$ " up from the bottom of each rod. Place a washer on each rod before screwing the rods into the mounting holes. The rods should not extend more than $\frac{3}{4}$ " into the air curtain.

5. Lift the unit into position and thread the turn buckles onto the bottom rods. Finally, tighten the hex nuts to lock the unit into place.

The unit is now ready to be wired. See page 10. It must be field wired in accordance with all applicable local, state, provincial, and national laws, including wire size and materials.

Nozzle Extension

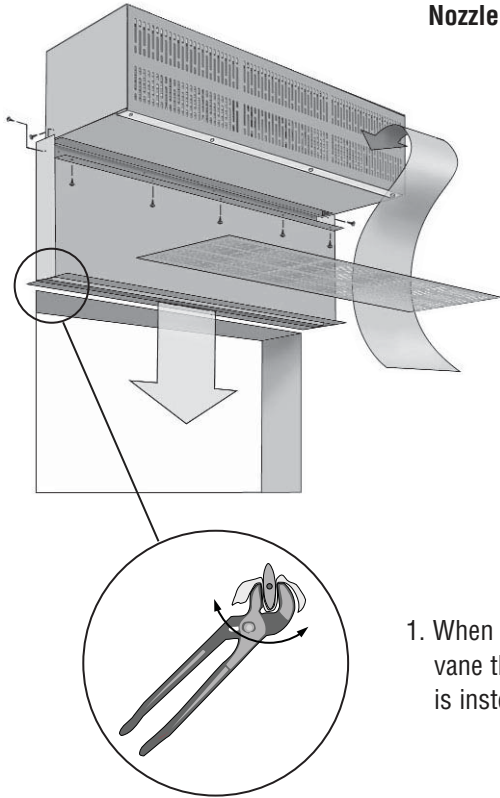
Nozzle Extensions are optional equipment and can be ordered from TMI, LLC.

The nozzle extension ships loose and is installed in the field.

NOTE: Please verify that the distance of the air curtain from the top of the ceiling is the exact height of the Extension plus 1”.

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 mounted in the ceiling with the use of a nozzle extension supplied.

When an air curtain is used in a recessed installation, the steering vane that is typically installed in the air curtain discharge to deflect the air stream is removed. It is instead installed on the discharge side of the nozzle extension.



1. When an air curtain is used in a recessed installation, the air flow directional vane that is typically installed in the air curtain discharge nozzle is removed. It is instead installed on the discharge side of the nozzle extension.

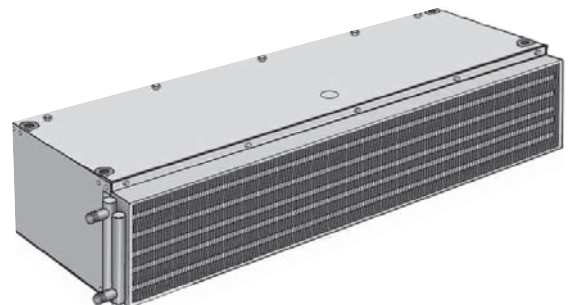
2. After the air curtain is installed above the ceiling, a slot is cut in the ceiling tile for the nozzle to slide up through from the bottom. When it is all the way through, the one inch flanges on the bottom of the extension will be flush with the ceiling. The top of the extension is like a sleeve that fits over the discharge of the air curtain. It is attached to the air curtain using self tapping screws fastened to the case of the unit.
3. If there is not a supply of air in the ceiling, an intake grille will need to be installed in the ceiling to supply return air to the air curtain. The grille should be just in front of the air curtain intake and should be large enough to provide access to the front of the air curtain for maintenance. If there is an air supply in the ceiling, it is recommended that an access panel be installed in the ceiling to provide access.

To properly adjust the direction of the air flow see “Adjusting the Air Flow” on page 10.

To reposition the outlet nozzle vane wrap a rag around it to prevent scratching, and grip the vane with a pair of channel locks

Connecting Water/Steam Heat Coil

Our Hot Water/Steam Heaters use standard NPT threaded pipe nipples for both inlet and outlet connections. Please consult a certified plumber for proper installation and always abide by local, state, provincial, and national building codes.



Wiring

CAUTION: Before doing any wiring, read the **WARNING** at the top of page 2.

IMPORTANT: All electrical wiring should be done in accordance to local codes, regulations, and standards, including fire-rated construction.

A wiring diagram can be found in the junction box as well as in an envelope attached to the shipping crate. All two speed models are wired internally to the junction box located on inside of cabinet. The proper size cable must be used to connect the unit to the power source. The voltage and amp rating are clearly marked on the wiring diagram. Refer to this diagram for specific information on instructions.

Refer to this diagram for specific information. Due to the various mounting and wiring combinations, please consult a certified electrician or call **TMI, LLC** at 1-800-888-9750 if you have any questions.

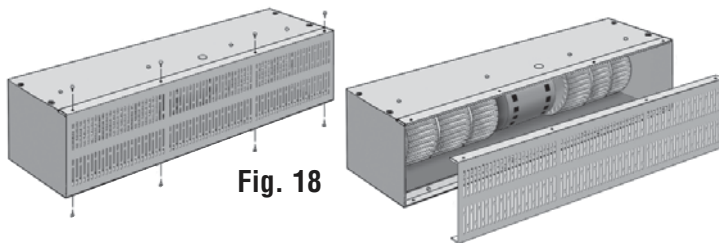


Fig. 18

Remove the screws that hold the intake screen in place. Remove the grill and applicable filter(s). (See Fig. 18)

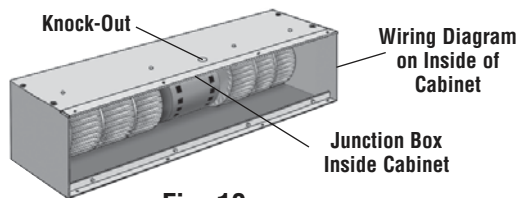


Fig. 19

Installation work and electrical wiring must be done by qualified person(s). Units accept 1/2" conduit, and have a knockout on the top of the unit. Wires from conduit are to be run to junction box inside of unit on top of the motor housing. (See Fig. 19)

Adjusting the Air Flow

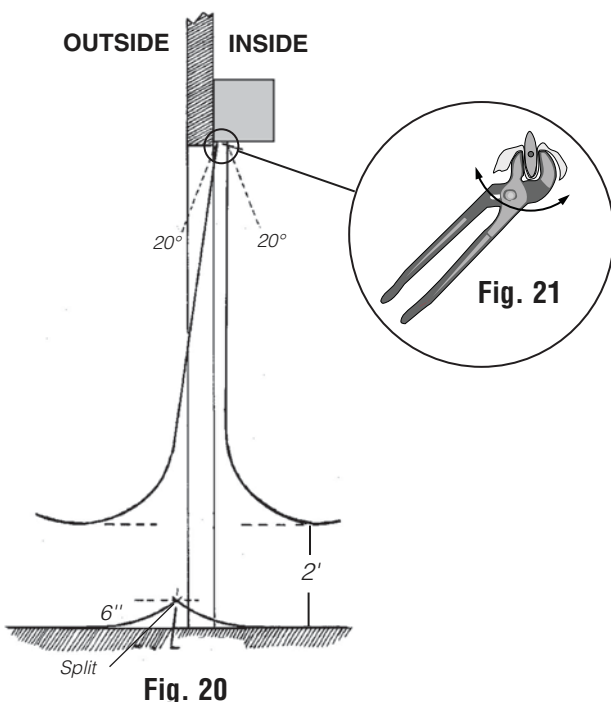


Fig. 20

Once your air curtain has been installed, properly wired and the fan rotation has been checked, it will be necessary to adjust the air flow. With the door all the way open and the unit turned on, find the air stream split by holding a square piece of light weight cloth by its corners in the stream of air and move it back and forth (inside and outside), approximately 6" from the floor. The cloth will show the flow pattern and will allow you to make the proper adjustments to the outlet nozzle for maximum efficiency. If your unit is properly adjusted, the split should be just outside the threshold with the top of the air current being about 2' from the floor. If your unit is on an outside door, it might be difficult to fine tune the air flow because of the outside wind conditions. (See Fig. 20)

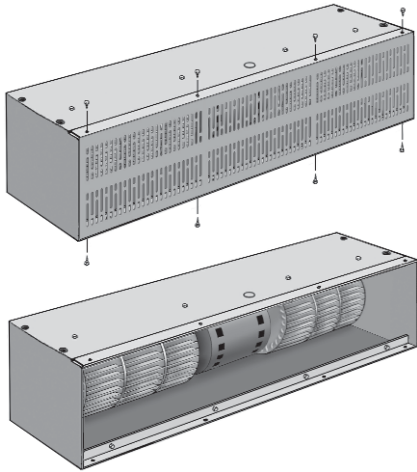
To make an adjustment to the air flow angle, you will need to reposition the outlet nozzle vane. Slightly adjust the vane to the proper angle by wrapping a rag around it to prevent scratching, and grip the vane with a pair of channel locks. (See Fig. 21). Rotate the vane in the proper direction. Repeat this process on the other side of the unit. The angle of the air flow should never exceed 20°.

Cleaning and Maintenance

CAUTION: ELECTRIC SHOCK HAZARD: Disconnect power when servicing unit. More than one disconnect may be required to de-energize unit.

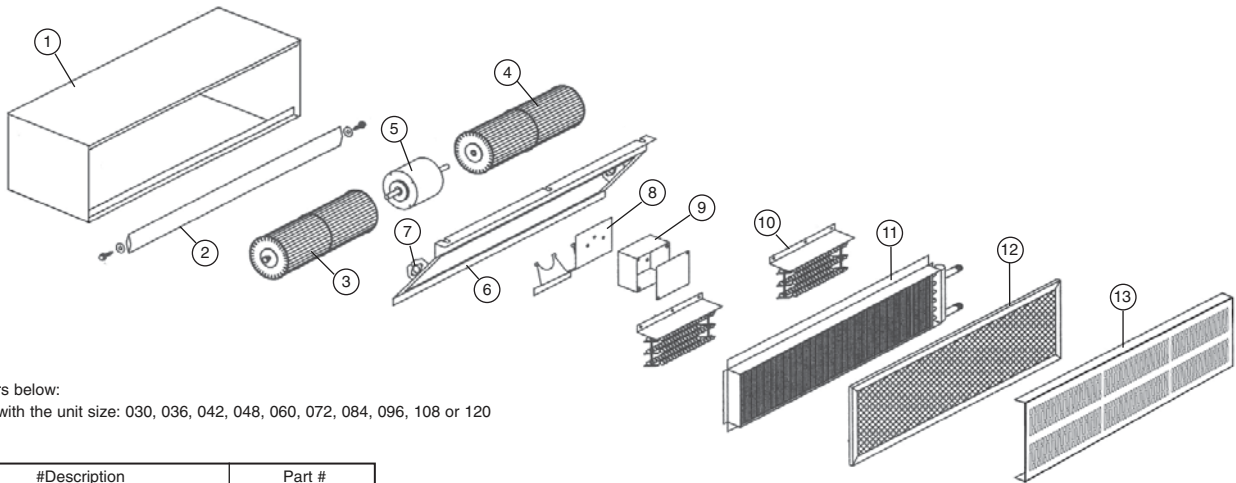
Keep your air curtain operating at peak efficiency by cleaning the blower wheels, motor(s) and intake grill. Build up of dust on the blower wheels can cause vibration, noise and excessive wear on the motor bearings. The frequency of cleaning will depend on the environment where the unit is operating.

Dirty, dusty or greasy environments could require a cleaning schedule of once every two months. If the environment is not that dirty, the unit(s) should be scheduled for cleaning at least once every (6) months.



1. Disconnect the power to the unit and remove the intake grill by removing the screws on the top and bottom of the intake grill.
2. Vacuum and scrape (if necessary) to remove the build up of dirt and debris. The motor(s) are permanently lubricated and require no additional lubrication. Reinstall the intake grill.
3. Switch the power on after cleaning. CAUTION: STAND CLEAR OF THE UNIT OR WEAR SAFETY GOGGLES AS LOOSE DEBRIS MAY BE PRESENT AND MAY EXIT THE NOZZLE.

Replacement Parts



For part numbers below:

- Replace XXX with the unit size: 030, 036, 042, 048, 060, 072, 084, 096, 108 or 120

Item	#Description	Part #
1	Outer Case	LP-OC-XXX
2	Steering Vane	LP-SV-XXX
3	14" Blower Wheel (Left)	LP-BWL-14
3	20" Blower Wheel (Left)	LP-BWL-20
3	22" Blower Wheel (Left)	LP-BWL-22
3	26" Blower Wheel (Left)	LP-BWL-26
4	14" Blower Wheel (Right)	LP-BWR-14
4	20" Blower Wheel (Right)	LP-BWR-20
4	22" Blower Wheel (Right)	LP-BWR-22
4	26" Blower Wheel (Right)	LP-BWR-26
5	Motor (120V, Single Phase)	LP-MTR-120
5	Motor (208/230V, Single Phase)	LP-MTR-230

Item	#Description	Part #
6	Motor/Blower Plate	LP-MBP-XXX
7	Bearing Cap	LP-BC-XXX
8	Motor Bracket	LP-MB
9	Junction Box with Lid	LP-JB-LID
10	Electric Heater (208 Volts)	LP-EH-208
10	Electric Heater (240 Volts)	LP-EH-240
10	Electric Heater (480 Volts)	LP-EH-480
10	Electric Heater (575 Volts)	LP-EH-575
11	Hot Water/ Steam Coil	LP-HWSC-XXX
12	Filter	LP-FLTR-XXX
13	Intake Grill	LP-IG-XXX

NOTES



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