

READ THIS FIRST

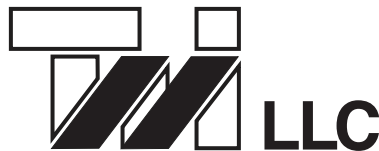
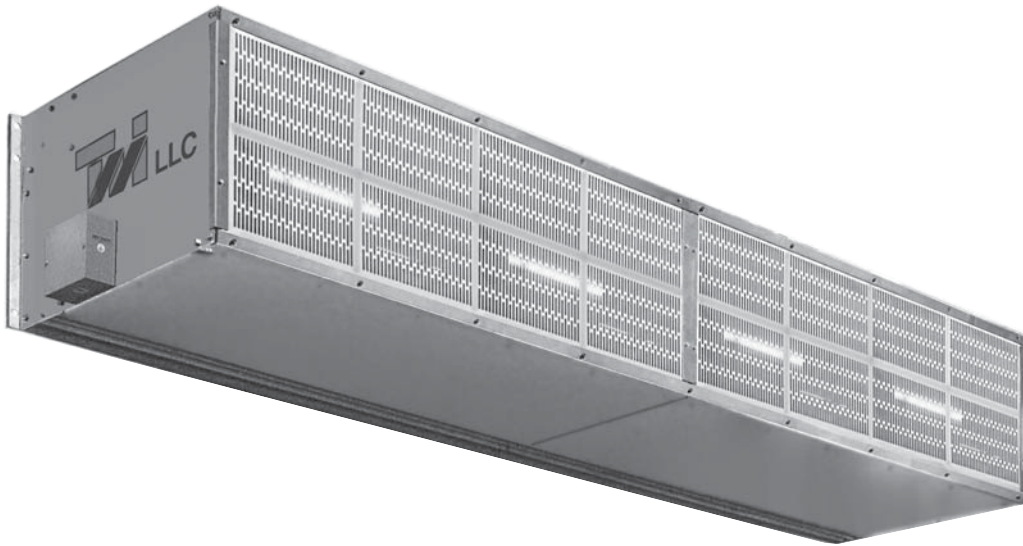
Carefully examine the crate(s) for damage before opening. If the carton is damaged, immediately notify shipping company. If the unit(s) were shipped on wooden skids, remove protective wood and banding straps securing the carton(s) to the skid. Open the carton(s) and remove all protective packaging. Immediately 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-XHD SERIES



TMI, LLC
Managing Environments™

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

Warning

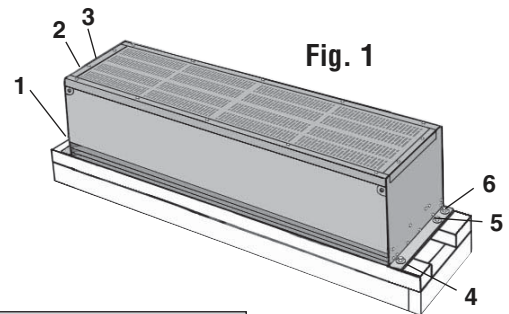
To Reduce the Risk of Fire, Electrical Shock, or Injury, Observe the Following:

- 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 6 lag screws are exposed. Remove the screws. (See Fig. 1) Now the unit is ready for installation.

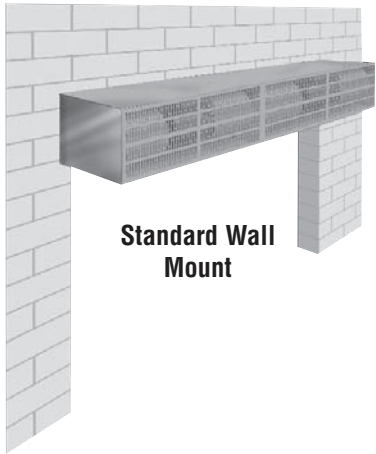


IMPORTANT NOTE

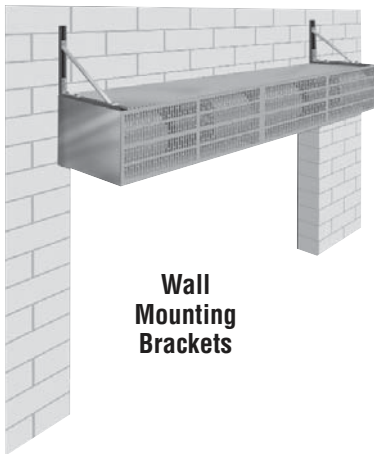
If the air curtain(s) was ordered with optional electrical components and accessories (door switch, control panels, mounting brackets, etc), the accessories may be found in the crate containing the air curtain or in an additional crate or box. Check all of the crates and boxes before disposing

Mounting Methods

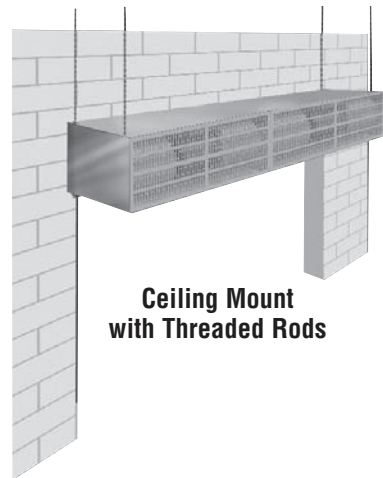
How your Air Curtain is mounted depends on your doorway opening and what equipment or obstructions are in the way. Below are the standard methods of mounting. All mounting methods will require additional hardware. to complete the mounting operation. Lag screws, hex bolts, washers, nuts and threaded rods 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



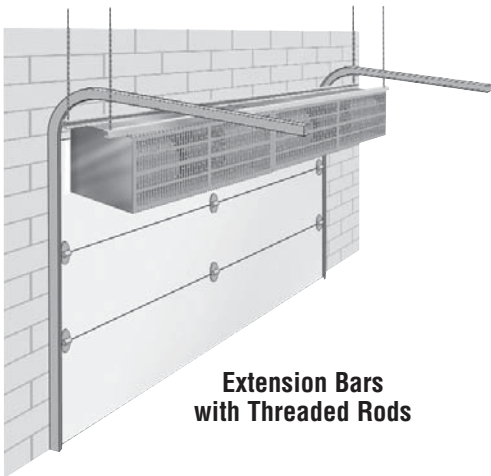
Standard Wall Mount



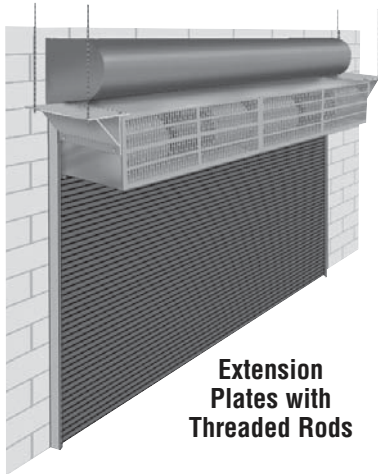
Wall Mounting Brackets



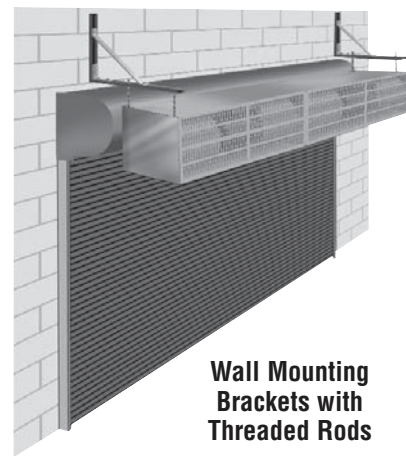
Ceiling Mount with Threaded Rods



Extension Bars with Threaded Rods



Extension Plates with Threaded Rods

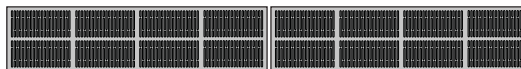


Wall Mounting Brackets with Threaded Rods



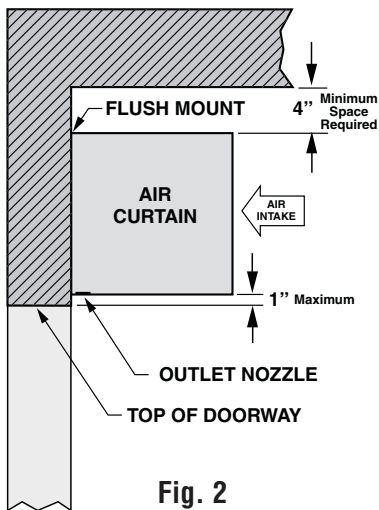
Vertical Mounting for Low Ceilings or No Space Above Header

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

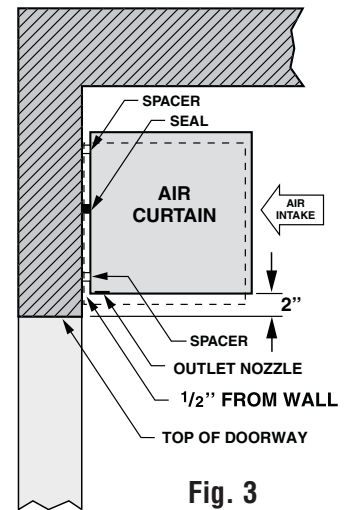


IMPORTANT

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. 2)**

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. 3)**



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. **(See "Mounting Methods", pg. 3)**
2. 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. 5)**. The discharge vanes are 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

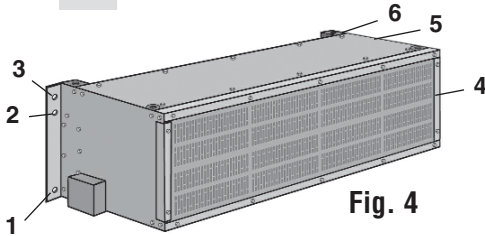
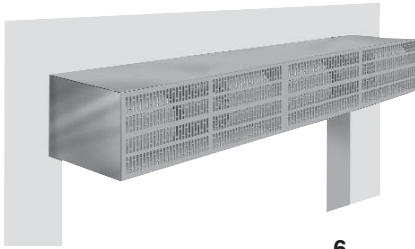


Fig. 4

1. Place the Air Curtain into position, 1" above the doorway opening and centered. Mark the six(6) mounting holes. **(See Fig. 4)** Remove the unit. If using lag screws and anchors, pre-drill the mounting holes and place the anchors.

2. Again place the Air Curtain into position and tighten all six(6) of the mounting screws. **(See Fig. 5)**

NOTE: Mounting bolts and lag screws with anchors must be of sufficient size and strength to be capable of supporting a minimum of three (3) times the weight of the unit.

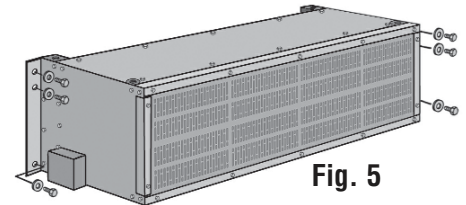
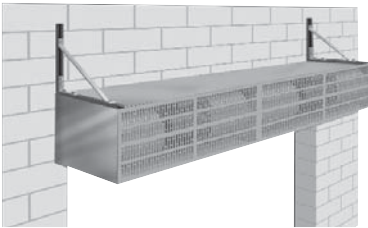


Fig. 5

The unit is now ready to be wired. See page 15. It must be field wired in accordance with all applicable local, state, provincial, and national laws, including wire size and materials.

Wall Mounting Brackets Method



Wall 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.

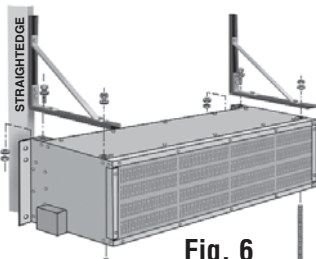


Fig. 6

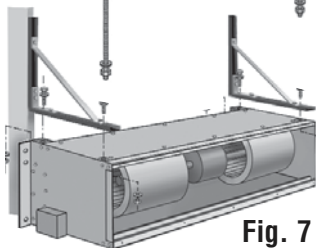


Fig. 7

1. Cut 2 pieces of threaded rod at least 24¹/₂" long. Place a washer and a nut on the end of each rod and place the rods through the bottom of the two (2) front mounting holes. **(See Fig. 6)** Next, place each wall bracket onto the threaded rod making sure the vertical brace is at the back of the unit. Using a straightedge, align the back of each bracket with the back of the air curtain so they are flush. Place a 1³/₄" bolt with washer through the bracket into each back mounting hole and secure the unit with a washer and nut. Place a washer and nut on the threaded rod and tighten all four(4) nuts to secure the unit to the brackets. **Note:** If The intake grill is removed, four(4) 1³/₄" bolts with washers and nuts can be used to attach the unit to the brackets. **(See Fig. 7)** Replace the intake grill.

2. With the brackets attached, place the air curtain into position. The bottom of the air curtain should be 1" from the top of the doorway opening and centered. Mark four (4) mounting holes. **(See Fig. 8)** Remove the unit. If using lag screws, pre-drill the mounting holes. If using mounting anchors, drill the holes and place the anchors.

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

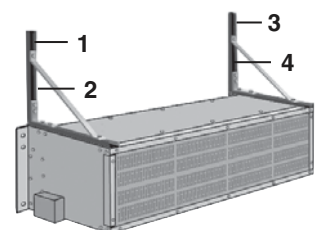
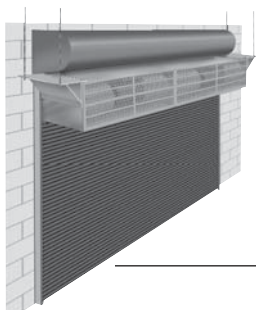


Fig. 8

The unit is now ready to be wired. See page 15. It must be field wired in accordance with all applicable local, state, provincial, and national laws, including wire size and materials.

Extension Bracket Mounting



Extension 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 doorway opening is serviced with a Turn-Back Track Door or a Roll-Up Door.

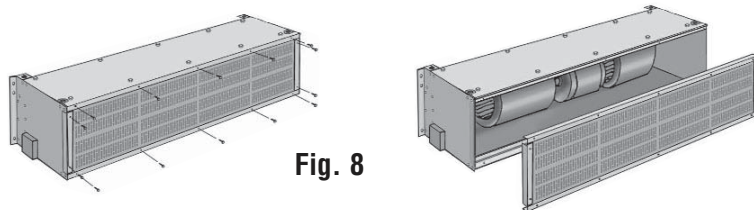


Fig. 8

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

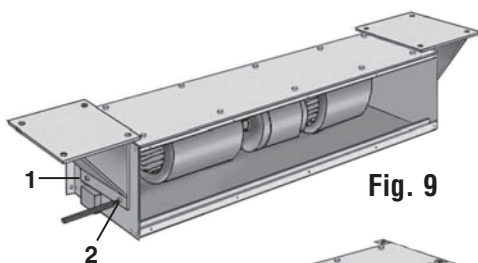


Fig. 9

2. One side at a time, place an Extension Bracket on the top side of the unit and align the top mounting holes with the mounting holes on the the unit. Temporarily place a bolt into each mounting hole to steady the bracket while you mark the two (2) bottom holes. Repeat this procedure on the other side of the unit. (See Fig. 9)

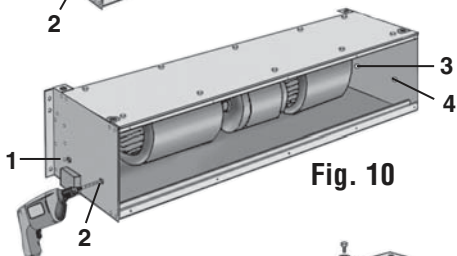


Fig. 10

3. Drill all four (4) holes using a $\frac{3}{8}$ " drill bit. (See Fig. 10)

4. Using bolts and washers on the top and bolts, washers, and nuts on the side panels, secure both brackets to the unit. (See Fig. 11)

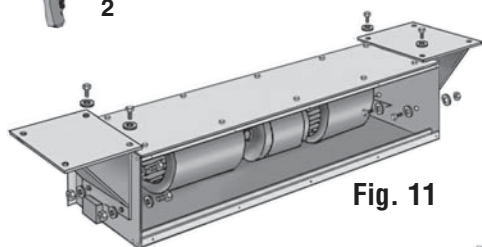


Fig. 11

5. With the unit temporarily in place, measure and cut threaded rods to size. Using a beam bracket or ceiling support, attach 4 - $\frac{3}{8}$ " threaded rods to the ceiling.

6. Place a nut at least $1\frac{1}{4}$ " up from the bottom of each rod. Place a washer on each rod before slipping it through the extension bracket. Then secure the unit by placing a lock washer and nut onto the threaded rod. (See Fig. 12) If using Wall brackets refer to "Wall Brackets Mounting Method," page 5.

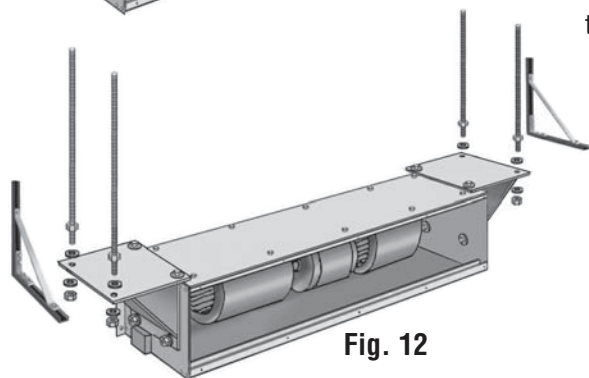
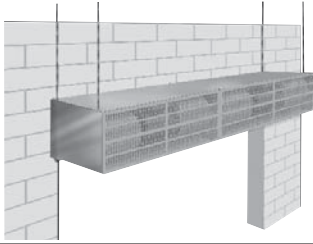


Fig. 12

7. Replace the intake grill.

The unit is now ready to be wired. See page 15. 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. 3, page 4.

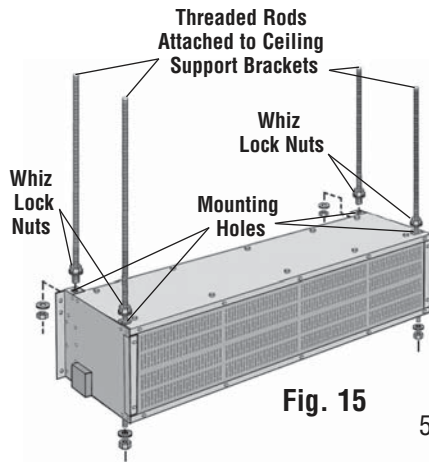


Fig. 15

1. Place the unit temporarily in position to take measurements for cutting the threaded rods (supplied by others). **Note:** The front rods should be 21" longer than the back rods since they run through the entire height of the unit .
2. Screw the rods into the ceiling support brackets (supplied by others). (See Fig. 15)
3. Place a whiz lock nut on each threaded rod at the appropriate distance to accommodate the height of the unit.
4. Lift the unit into position over the threaded rods. The bottom of the air curtain should be 1" from the top of the doorway opening and centered.
5. Place a washer and nut on the bottom of each rod. Tighten all the hex nuts to secure the unit. (See Fig. 16)

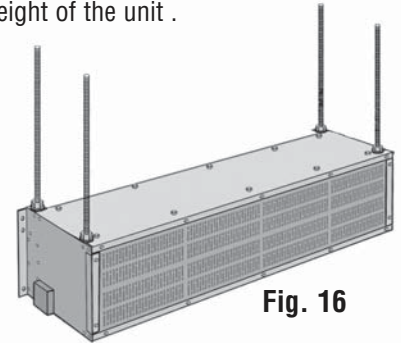
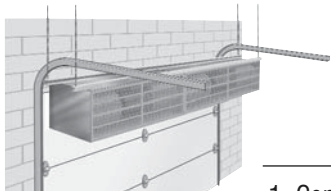


Fig. 16

The unit is now ready to be wired. See page 15. It must be field wired in accordance with all applicable local, state, provincial, and national laws, including wire size and materials.

Mounting Bar Method



Mounting Bars 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 air curtain unit for safety purposes.

This mounting method should be used when obstructions interfere with normal wall mounting methods (i.e. overhead door and roll-up door guide rails).

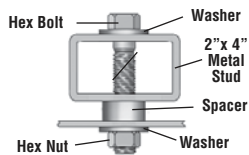


Fig. 17

1. Center the uni-strut mounting bars on the unit with the open side down Place the bar over the unit's top threaded mounting holes. (See Fig. 17) Using (4) four $\frac{3}{8}$ " bolts/nuts with washers on top and bottom, attached each bar to the top of the air curtain. (See Fig. 18) **IMPORTANT:** If the air curtain has more than one module, the unit should be bolted at each module connection. (See Fig. 19)
2. If using wall mounting brackets attach them to the bars. Refer to "Wall Bracket Mounting Method, pg 4.
3. Temporarily position the unit to either mark the bracket holes, or measure for threaded rod lengths. (See Fig. 20)
4. For wall bracket. if using lag screws, pre-drill the mounting holes. If using mounting anchors, drill the holes and place the anchors.
5. If using threaded rods, cut rods to size, attach them to the ceiling support brackets (supplied by others).
6. Finally lift the air curtain into position and secure the unit.

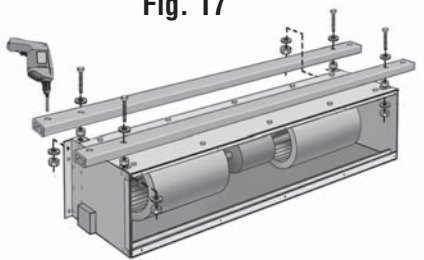


Fig. 19

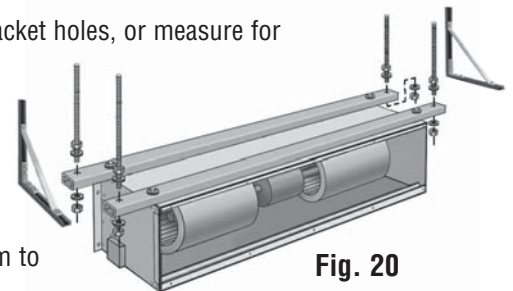
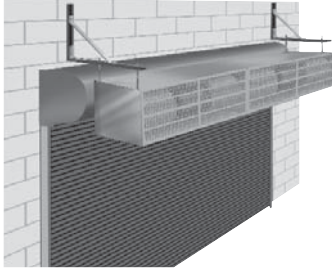


Fig. 20

The unit is now ready to be wired. See page 15. It must be field wired in accordance with all applicable local, state, provincial, and national laws, including wire size and materials.

Wall Brackets and Threaded Rod Mounting



Wall Brackets with Threaded Rods and Side Baffles 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 air curtain unit for safety purposes.

NOTE: *The Wall Bracket must have an extended bottom brace.*

This mounting method would be used when a roll-up door is in place and the air curtain cannot be mounted under the roll-up door canister.

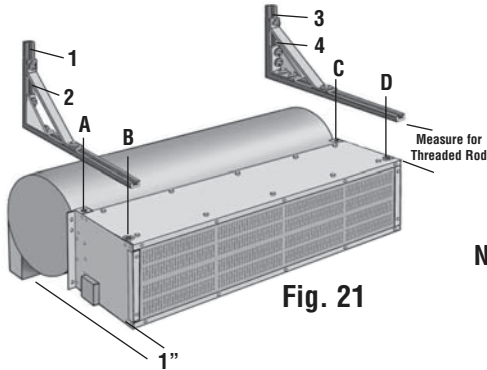


Fig. 21

1. With the air curtain temporarily in place (1" above the top of the doorway opening and centered), temporarily place the wall brackets so they align with the top mounting holes **A, B, C & D** on the unit. Mark the mounting holes **1, 2, 3 & 4** on the wall. (See Fig. 21) Then measure the distance from the bottom of the brackets to the top of the unit. This measurement will be used to cut the threaded rods.

NOTE: When cutting the threaded rods add $3\frac{3}{4}$ " to the original measurement ($\frac{3}{4}$ "- air curtain side plus 3"- bracket side)

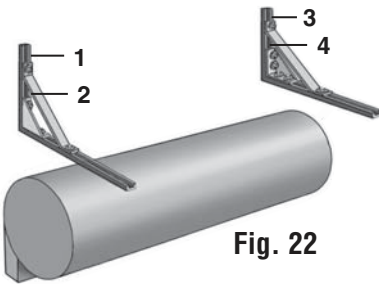


Fig. 22

2. If using lag screws, pre-drill the mounting holes. If using lag screws with anchors, drill the holes and place the anchors. Attach the wall brackets to the wall. (See Fig. 22)
3. Place a hex nut $\frac{3}{4}$ " from one end of each threaded rod. Place a washer onto each rod and screw the (4) four threaded rods into the four mounting holes. They should not extend more than $\frac{3}{4}$ " into the unit. (See Fig. 23)

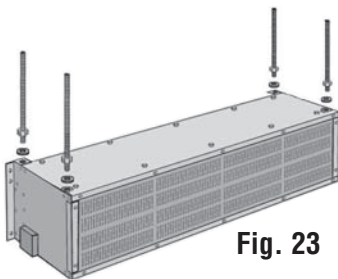


Fig. 23

5. Finally, move the air curtain into position by placing the threaded rods into the wall brackets. Using washers and hex nuts secure the unit to the brackets. (See Fig. 24). Then tighten all (4) four nuts at the bottom of the rod to lock the unit into place.
6. Because the take-up canister on a roll-up door interferes with the proper positioning of the air curtain, side baffles must be used. (See Fig. 25) We recommend clear PVC material which can be acquired from TMI, LLC. Side baffles create an enclosure that allows the air curtain to function at maximum performance.

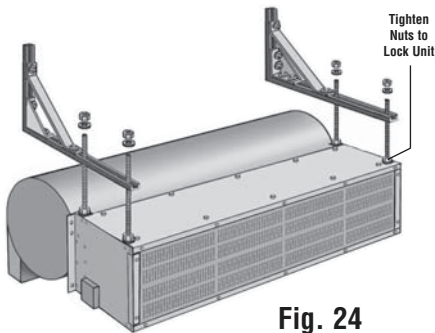


Fig. 24

Since there are many different types of roll-up doors, we cannot give you specific details for fabrication and installation of baffles and barriers. If you need help, please contact our engineering staff at TMI, LLC.

The unit is now ready to be wired. See page 15. It must be field wired in accordance with all applicable local, state, provincial, and national laws, including wire size and materials.

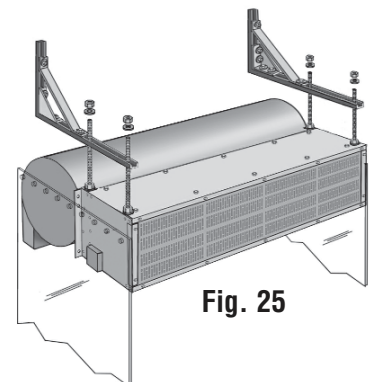
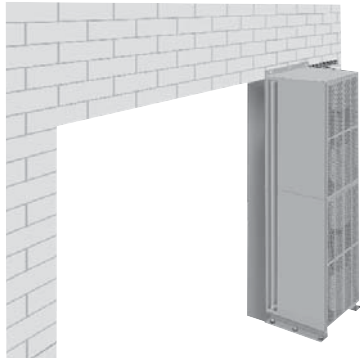


Fig. 25

Vertical Mounting



Vertical mounting works well when there are obstructions above the doorway opening and typical wall mounting will not work.

Floor Mounting Brackets and Wall Brackets are optional equipment.

If your Air Curtain is to be mounted vertically, that information would have been given to TMI, LLC when the order was placed since the Floor Mounting Brackets are attached at the factory.

The Wall Brackets should be installed in the field.

IMPORTANT: There is left and right side mounting. The outlet nozzle MUST be at the edge of the doorway opening. (See Fig. 26)

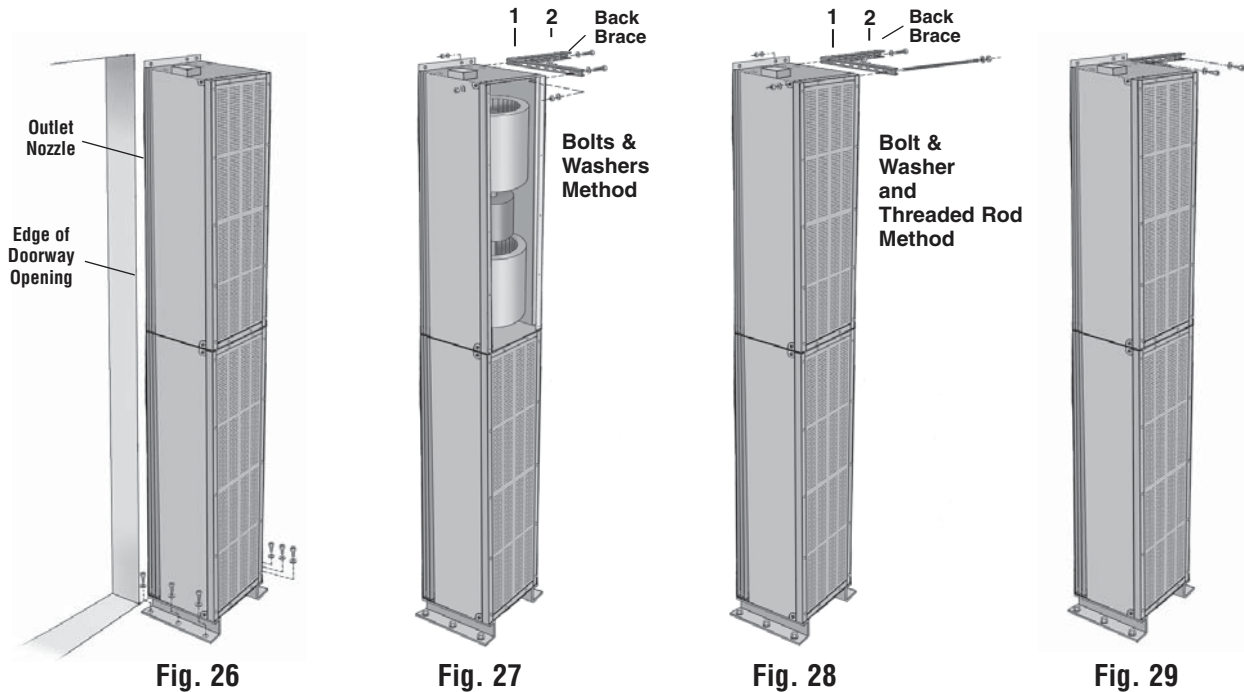


Fig. 26

Fig. 27

Fig. 28

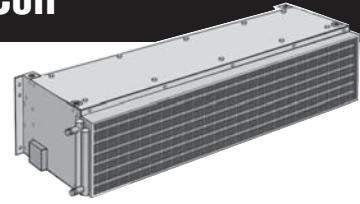
Fig. 29

1. With the air curtain temporarily in place, with the mounting brackets on the floor (1" from the edge of the doorway opening), mark the six (6) mounting holes. (See Fig. 26) Remove the unit. If using lag screws, pre-drill the mounting holes. If using lag screws with anchors, drill the holes and place the anchors. Reposition the unit and secure it with lag screws.
2. Secure the air curtain at the top. We recommend using a wall bracket. (See Fig. 27) If using bolts & washers, remove the intake grill. Temporarily attach the bracket to the unit and with the back brace flush to the wall, mark mounting holes **1 & 2**. Remove the bracket. If using lag screws, pre-drill the holes. If using lag screws with anchors, drill the holes and place the anchors. Replace the bracket and tighten mounting bolts.
3. If using a bolt & washer, and threaded rod to attach the wall bracket, temporarily attach the bracket to the unit and with the back brace flush to the wall, mark mounting holes **1 & 2**. (See Fig. 28) Remove the bracket. If using lag screws, pre-drill the holes. If using lag screws with anchors, drill the holes and place the anchors. Replace the bracket and tighten mounting bolts.
4. Attach the bracket to the wall using two (2) lag screws with washers. (See Fig. 29)

The unit is now ready to be wired. See page 15. It must be field wired in accordance with all applicable local, state, provincial, and national laws, including wire size and materials.

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.



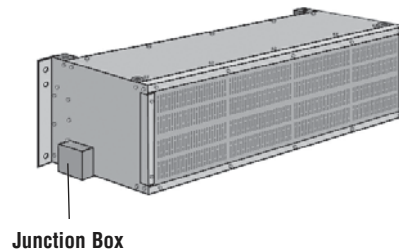
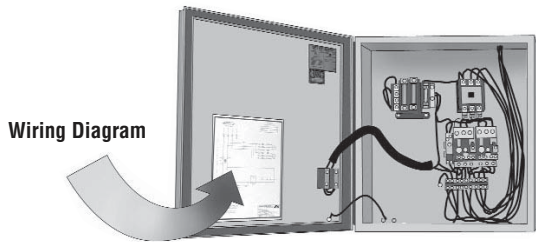
Wiring

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

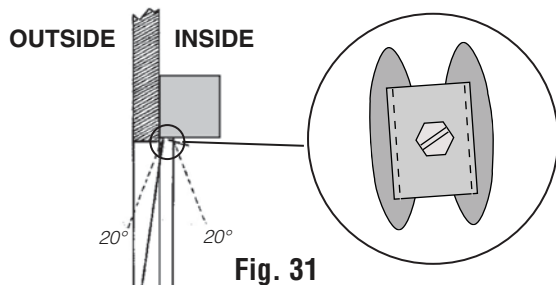
IMPORTANT: All electrical wiring should be done in accordance to local codes, regulations, and standards, including fire-rated construction and should be done by a qualified person(s), preferably a certified licensed electrician.

A wiring diagram is inside the control panel that is shipped with the air curtain. The proper size cable must be used to connect the unit to the power source. The voltage and amp ratings are clearly marked on the diagram as well as other installation information. Also the junction box is generally attached to the unit's left side panel.

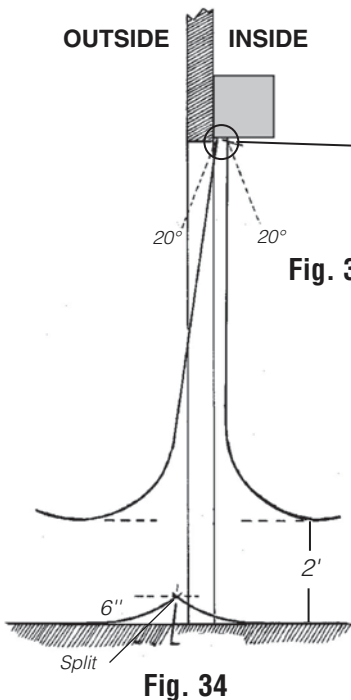
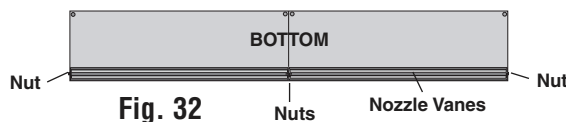
Due to the various mounting and wiring combinations, please consult a certified electrician or call TMI, LLC at 1-800-888-9750 if you have any questions.



Adjusting the Air Flow



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. 31)



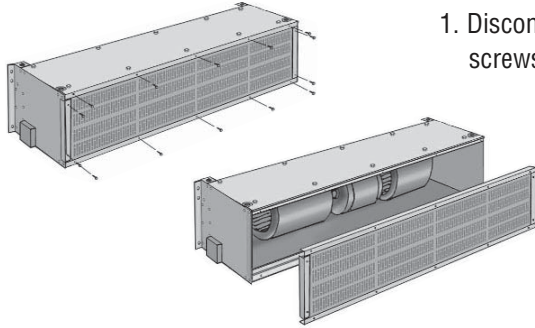
To make an adjustment to the air flow angle, you will need to reposition the outlet nozzle vanes. First loosen the hex nut on both sides of the unit. With units that have 2 or 3 motors, the nut(s) that is between chambers will also have to be loosened. With your hands, slightly rotate the vanes to the proper angle. The angle of the air flow should never exceed 20°. Once the proper angle has been achieved, tighten the hex nut on both sides. (See Fig. 32)

Cleaning and Maintenance

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

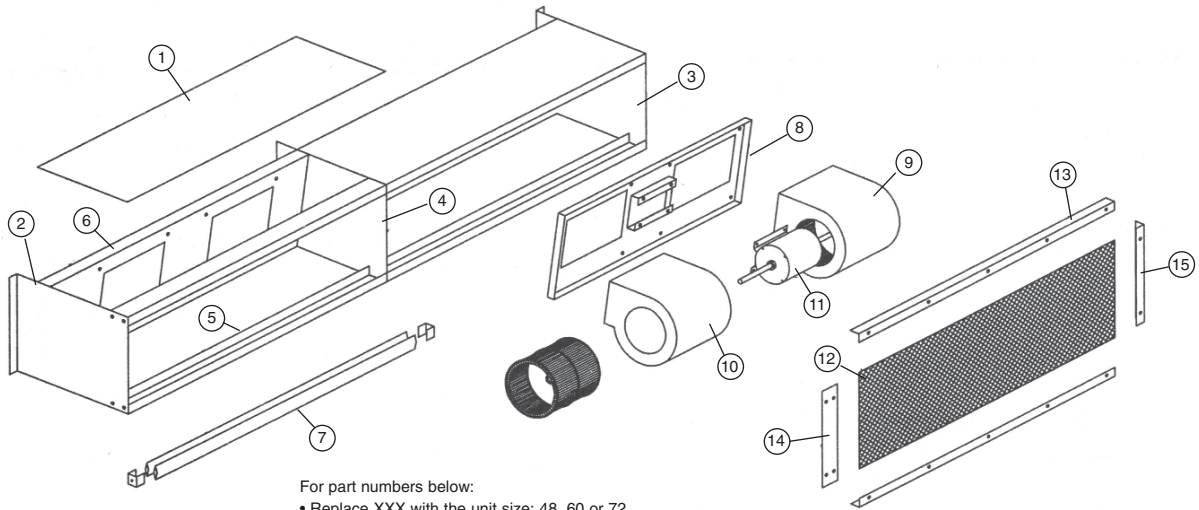
Keep your air curtain operating at peak efficiency by cleaning the blower wheels, motor(s) and intake grill. Build up of dust on the blower wheels can cause vibration, noise and excessive wear on the motor bearings. The frequency of cleaning will depend on the environment where the unit is operating.

Dirty, dusty or greasy environments could require a cleaning schedule of once every two (2) months. If the environment is not that dirty, the unit(s) should be scheduled for cleaning at least once every six (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 screen.
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

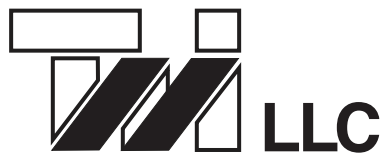


For part numbers below:
 • Replace XXX with the unit size: 48, 60 or 72
 Other lengths are built using these basic module sizes

Item	#Description	Part #
1	48" Top/Bottom Panel	XHD-TBP-48
1	60" Top/Bottom Panel	XHD-TBP-60
1	72" Top/Bottom Panel	XHD-TBP-72
2	Left Side Panel	XHD-LSP
3	Right Side Panel	XHD-RSP
4	Interior Side Panel	XHD-ISP
5	48" Strut	XHD-STR-48
5	60" Strut	XHD-STR-60
5	72" Strut	XHD-STR-72
6	48" Compression Chamber	XHD-CC-48
6	60" Compression Chamber	XHD-CC-60
6	72" Compression Chamber	XHD-CC-72
7	48" Steering Vane Assembly	XHD-SVA-48
7	60" Steering Vane Assembly	XHD-SVA-60
7	72" Steering Vane Assembly	XHD-SVA-72

Item	#Description	Part #
8	Motor/Blower Plate	XHD-MBP-XX
9	Right Blower with Housing	XHD-RBH-XX
10	Left Blower with Housing	XHD-LBH-XX
11	Motor, 5 HP (208-230-240V)	XHD-5HP-240
11	Motor, 5 HP (575V)	XHD-5HP-575
12	48" Intake Grill	XHD-IG-48
12	60" Intake Grill	XHD-IG-60
12	72" Intake Grill	XHD-IG-72
13	48" Top/Bottom Grill Support	XHD-TBGS-48
13	60" Top/Bottom Grill Support	XHD-TBGS-60
13	72" Top/Bottom Grill Support	XHD-TBGS-72
14	Center Grill Support	XHD-CGS
15	Side Grill Support	XHD-SGS

NOTES



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