VentilationUSA
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Installation Instructions

What's included:
1 KeepTheHeat™ Air-To-Air Heat Exchanger 1500
20" of metal duct work (shipped in 4' sections)
All connectors for duct work assembly
8 - 4”x4” Corrugated Tubing Couplers
75 Plastic ring spacers

What you need to provide:

Eight (8) pieces of 4" solid corrugated tubing, 20' long. It is best to buy the tubing in 10’ sticks if available. If you must buy a coiled roll of corrugated tubing; buy a 300’ roll and cut tube into 25’ pieces. For best results if you buy rolled corrugated tubing, cut tubing a couple of days before you start installation. Leave tubing inside to help straighten tubes (the straighter the tubes, the better the airflow).
Approximately 750’-900’ of 4” sewer and drain Solid PVC (Schedule 20)**.**
Fittings for 4” PVC. Typical installation requires 2 to 4 90°’s and 1 45° per air drop. Approx. 30 to 40 90°’s and 11 to 15 45°’s
Support hangers. These are to support the 20' duct work and hangers for the 8 air delivery tubes. Angle iron and thread-all work best.
Flange for unit entrance into building. Picture included below.
Self-tapping screws (lengths will vary)
Approximately installation time is 40 labor hours

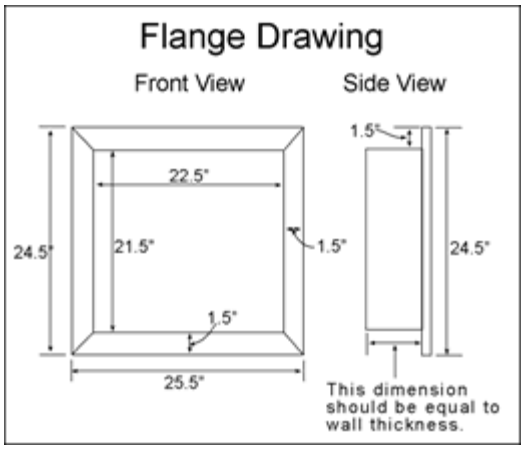
Installation Instructions:

1.Choose the best location for installation of both the head of the system and the location of the 8 air-drops. It is best if the end of duct work is as close to your biggest problem creation source as possible. Here are a few other factors to consider:

- What is the exterior wall made of and is a mounting hole going to compromise the structural integrity of the building?
- What can you hang the duct work from? Metal studs in ceiling work well or anything that is solid enough to support 250 lbs. of weight.
- Where do I need fresh air? Air-drops should be routed to areas where employees are working the most. You have 8 different places you can route these air-drops to.
- The more times you have to twist and turn the PVC, the more air volume you lose. The straighter you make the PVC, the more air you can bring into the building.

2. Construct flange to mount in the side of your building.(Use galvanized metal – see pictures below)

Flange



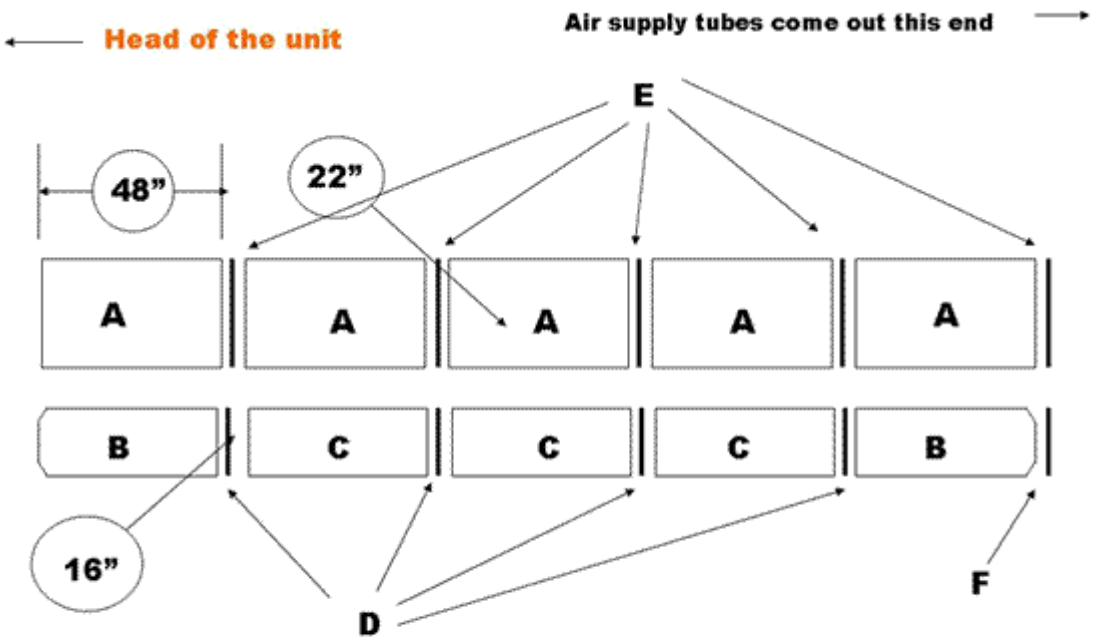
Click to Enlarge Drawing

3. Cut hole in your building (21.5" high, 22.5" wide), insert flange and attach to your building. Self-tapping screws are sufficient to hold flange in place until head of system is installed.

4. Insert head of the unit into the building. Attach unit to building and flange. You can usually screw directly through the side of the flange into the head of the system. Another option is from the inside of facility; run screws from inside of head into flange. **IMPORTANT – Make sure both fan blades spin unobstructed inside the head of system. Some minor right/left or up/down adjustment may be needed.**

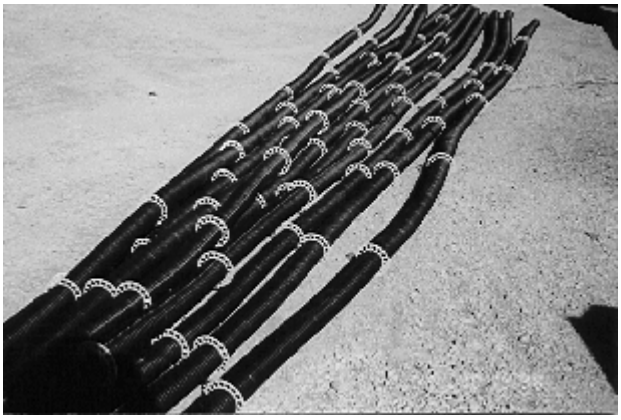
5. Caulk exterior of system. Caulk both around flange and head of system. This insures that no moisture can enter the facility.

6. Assemble duct work (See diagram below.). Depending on space limitations, duct work is usually assembled in 2 pieces; one is 12' long while the other is 8' long. If you want to assemble all 20' at one time you can. Make sure that when duct work is assembled you attach the 16" pieces with only one curled end to the head of system. A total of 4 x 16" pieces of duct work with only one curled end are included. These pieces should be located at each end of duct work.



	Qty			Qty	
A	10	Top and Bottom	D	8	Locking slides
B	4	Front and end (sides)	E	10	Long Barlocks
C	6	Center 2 sections	F	2	Short Barlocks

7. Snap ring spacers on corrugated tubing every three to four feet on each of the eight 4” corrugated tubes.



8. Insert tubing into metal duct work. If you have 10’ sticks of tubing, ready one 10’ section with spacers, insert into duct work, then raise duct work to ceiling. If you are using 25’ lengths of rolled tubing and assembling duct work in multiple pieces, insert all of tubing into duct work after all duct work is hung. If duct work can be installed in one piece, place tubing into duct work before it is raised to the ceiling.

9. Raise first section duct work to ceiling, use couplers to attach corrugated tubing; attach duct work to head of system. Duct work should be secured to ceiling in at least three places. After duct work is secured to ceiling, attach corrugated tubes inside of duct to the corrugated tubes from head of system. Make sure to use small screws and duct tape to secure tubing inside of couplers. Duct work can be attached to head with 10-15 sheet metal screws and should be caulked to insure air-tightness.

10. Install second section of duct work. Couple 10’ sticks of corrugated tubing the same way tubing is attached to head of system.

11. Begin installing PVC. It is best to work from juncture of ceiling and side wall or support pole and work back to end of duct work. Make sure PVC does not block the end of duct work. Try to allow some space (2-3’) at the end of duct work for exhaust air to enter.

12. Fasten PVC to ceiling. Small gauge wire or plumber’s strap work well and are pleasing to the eye.

13. Fasten PVC to side walls or poles. Air drops should end about 3’ from the floor. Zip ties work well to attach PVC to existing objects such as electrical conduit or compressed air lines.

14. Attach 4” corrugated tubing to 4” PVC. All 3” pieces should be screwed and taped into 4” PVC; this insures an air-tight seal.

15. Install 45° elbows at the ends of air-drops. 45° elbows help push the air away from the walls and toward the center of the building. This makes for optimal air flow. It is best to cement the 45’s after system is up and running; this way employees can adjust the direction of the air to their preference.

16. Electrician is needed to wire power to system. Have electrician wire motors to separate switches (one for intake air (left motor lead) and one for exhaust (right motor lead). Each motor is variable speed and speed controls can be installed if desired. If your system is wired for 3-Phase electricity and you have ordered a system with a reversible intake fan, notify electrician that left motor lead needs to be on a reversible switch.

17. If you have any questions contact us. 800 622 8078 ask for Richard

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