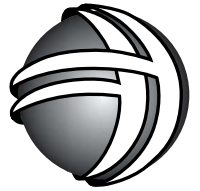


HV 1000/HV 1600 Gold

Whole House Cooling Fans

Product Manual

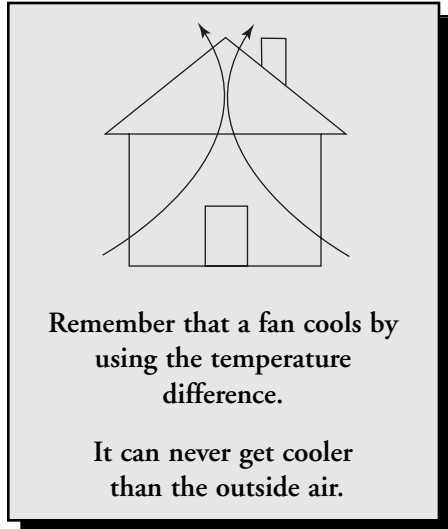
Please leave with homeowner!



Tamarack Technologies, Inc.

What the HV 1000/HV 1600 Gold does: The HV 1000 and the HV 1600 Gold Whole House Coolers pushes hot air out of the attic while drawing cooler, fresh air into your home

through open windows and doors. When the system is not operating, the motorized, and insulated doors automatically close and seal, preventing drafts and heat or air conditioning loss.



What's the difference between the HV 1000 and the HV 1600 Gold?

Physically both products are the same size and look just about the same except that the HV 1000 has silver faced insulation and the HV 1600 Gold has gold faced insulation. Operationally, the HV 1000 moves 1000 cubic feet of air per minute and the HV 1600 Gold moves 1600 cubic feet of air per minute.

Where should you locate your HV 1000/HV 1600 Gold? Air will always take the path of least resistance. The HV 1000/HV 1600 Gold should be located so that it is as central as possible to the area that you want to cool. The cooler outside air should be able to move through the window, the space that needs to be cooled, and exhausted out through the fan into the attic.

The attic must have the equivalent of 2 square feet of opening to the outside for the HV 1000 and 3.5 square feet for the HV 1600. This can be a combination of ridge vents, gable end vents or other attic exhaust points. The HV's can even be mounted vertically, exhausting through a "knee wall" into an under-the-eaves attic space.



What's in the box? If you have unpacked your HV 1000/HV 1600 Gold carefully and found these instructions, you should have noticed the grille wrapped in plastic including (6) white screws, the foam tape, the metal electrical box cover, a package of (7) screws and these instructions. If you have ordered a special control - timer, thermostat, or humidistat-that will also be in the box. **DON'T PULL ON THE DOORS!** You will strip the gears.

**Do Not Pull On,
Carry By, or Stress the
Doors!**

Keep this area clear -
a minimum of 11.25 inches.

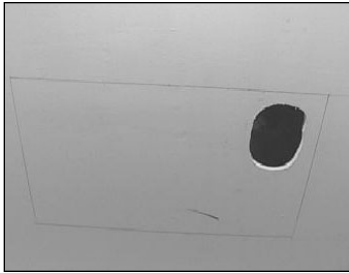
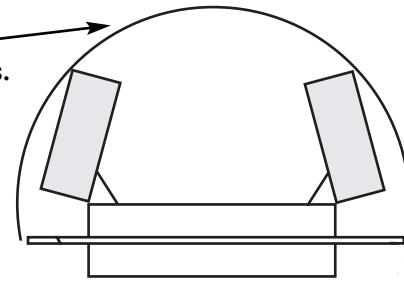


FIGURE 1



FIGURE 2



FIGURE 3



FIGURE 4



FIGURE 5

Installation:

Before you start: Before you start installing the fan, you should be sure that there is enough room for the doors to open and there aren't any pipes, wires, or air conditioning or heating ducts running through the space where the HV will be installed. Oh, and also - **READ THESE INSTRUCTIONS.**

Tools needed: A saw to cut the hole in the ceiling. A saw to cut two pieces of 2 x stock blocking. A hammer or screw gun to attach the blocking to the existing rafters. A screw driver to attach the grille and for the electrical work. Sometimes owners find the installation looks more finished if the inside of the blocking has been painted before the grille is put in place.

1. There are several methods for making the proper sized hole in the ceiling. The dimensions of the hole should be no greater than 23 1/2" x 14".
 - One way is to cut a pilot hole approximately in the center of where the fan will be installed. Then cut toward the edge to find the rafter pattern. Then lay out the fan opening on the ceiling. (Figure 1)
 - Another way is to mark the four corners of the opening from the attic side. Draw a line between each of the four corners to mark the fan rectangle.
 - A third way is to use a Stud Finder to locate the rafters, cut a template from the fan packaging material, and use the template to mark the opening on the ceiling.
2. With the hole cut out, add two pieces of framing to form a "box" between the rafters. These will probably be cut from "2x" stock (2 x 6 or 2 x 8 or 2 x 10, etc.) of the same dimension as the existing rafters. (Figure 2)
3. Install the foam gasket (supplied) on the top of the rafters and added framing. Check the joint between the ceiling and the 2x stock. Some types of ceilings are spaced away from the rafters. Any gap between the 2x's and the ceiling should be sealed prior to final installation. (Figure 3) (Note: foam sealant not supplied.)
4. Set the HV 1000/HV 1600 Gold onto the top of the gasket. The lower housing will fit into the "box" with the mounting flanges overlapping the framing. (Figure 4)
NOTE: The HV 1000/HV 1600 Gold should not be forced into this opening. It should slip easily down onto the top of the rafters. Forcing it into place may cause the doors not to function properly.
5. If desired, secure the HV 1000/HV 1600 Gold to the top of the rafters using the screws provided. (Note that there is virtually no vibration and no way for the HV 1000/HV 1600 Gold to move out of the opening so there is little need to screw it into place unless your code requires it.)
6. Wire the unit as shown in the wiring diagram. We encourage the use of a licensed electrician.
7. Install the grille (screws included) on the ceiling below the fan. (Figure 5)
8. After wiring, check the HV 1000/HV 1600 Gold for proper operation.

Wiring

IMPORTANT - Because of the motorized damper doors, wiring the HV 1000/HV 1600 Gold is different than a normal ON/OFF fan. Please follow the instructions carefully. There are (3) versions of the products: the HV 1000/HV 1600 Gold, the -R and the -X-10. **Please use the correct wiring diagram.**

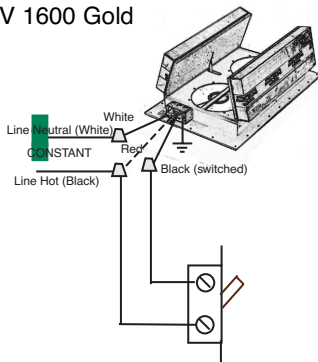
BE SURE TO TURN OFF POWER BEFORE WIRING THE HV 1000/HV 1600 Gold!

If you are not familiar or comfortable working with wiring, refer the installation to a licensed electrician. Some State and Local electrical codes require the HV 1000/HV 1600 Gold be installed by a licensed electrician. Check with your local code officials before installation

The HV 1000/HV 1600 Gold requires a constant source of power. Because the doors are motorized, they need power to open and power to close. (Fan operation is controlled internally.) There are three wires in the electrical box: WHITE, BLACK, and RED.

- The WHITE should be connected Line Neutral, 115 VAC 60 Hz
- The RED should be connected to Line Hot, 115 VAC 60Hz. (This is constantly HOT.)
- The BLACK is the switched lead. When 115 VAC Hot is applied to it, the dampers will open. When 115 VAC Hot is removed from, the dampers will close.
- Connect ground wire to the screw in electrical box

HV 1000
HV 1600 Gold

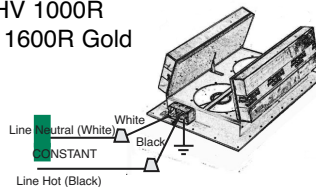


The HV 1000R/HV 1600R Gold requires a constant source of power. Because the doors are motorized, they need power to open and power to close. (Fan operation is controlled internally.) There are four wires in the electrical box: WHITE, BLACK, and two YELLOWS that are capped off.

- The WHITE should be connected Line Neutral, 115 VAC 60 Hz
- The BLACK should be connected to Line Hot, 115VAC 60 Hz.
- Connect ground wire to the screw in electrical box.

The two yellow leads may be used to connect to a wall mounted switch, timer, or thermostat.

HV 1000R
HV 1600R Gold



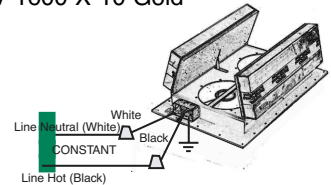
These products are not suitable for use with an electronic timer or any type of speed control.

The HV 1000-X10/HV 1600-X10 Gold requires a constant source of power. Because the doors are motorized, they need power to open and power to close. (Fan operation is controlled internally.) There are two wires in the electrical box: WHITE, and BLACK.

- The WHITE should be connected Line Neutral, 115 VAC 60 Hz
- The BLACK should be connected to Line Hot, 115 VAC 60 Hz.
- Connect ground wire to the screw in electrical box.

The transceiver should be plugged into a wall outlet somewhere in the house. If the HV 1000-X10/HV 1600-X10 Gold does not operate at all when the "ON" button is pressed try plugging the transceiver into a different outlet. Make sure that the House switch is set to "A" and the Unit switch is set to "1".

HV 1000 X-10
HV 1600 X-10 Gold



How to use the HV 1000/HV 1600 Gold

Use the HV 1000/HV 1600 Gold to amplify the natural cooling process in the house. When the outside temperature drops below the inside temperature, that cooler air can be used to cool the house. The HV 1000/HV 1600 Gold should not be used to "cool" the house when it is hotter outside than it is inside. The HV is a fan product and can never cool the house below the outside or source air temperature.

Open the windows and/or doors as you would normally. Turn the HV 1000/HV 1600 Gold on until the temperature in the house drops to the desired level. Natural cooling is a slow process. It may take a few hours or all night to thoroughly cool the house down.

The HV 1000/HV 1600 Gold can be used any time you want to change the air in the house, but be careful not to steal the air from combustion appliances that may back draft.

Maintenance: Very little maintenance is required. All the motors are permanently sealed and don't require oiling. Keep the dirt off the doors and the fans with occasional cleaning, and clear the dust off the intake grille.

Be sure to open at least one window when the HV 1000/HV 1600 Gold is operating.

Troubleshooting

The most common problem with the HV 1000/HV 1600 Gold is caused by mis-wiring. If you have the **HV 1000 or HV 1600 Gold** (not the HV 1000R/HV 1600R Gold or the HV 1000 X-10/HV 1600 X-10 Gold) before you check anything else make sure:

WHITE wire in HV 1000 or HV 1600 Gold is connected to 115VAC Line Neutral (white);

RED wire in HV 1000 or HV 1600 Gold is connected to 115 VAC Line Hot (Constant Hot Feed);

BLACK wire in HV 1000 or HV 1600 Gold is connected to a switch that will make it hot when the switch is closed.

Switch	Doors	Fans	Possible Cause	Try
On	Don't Open	Don't Run	No power	Check connections or circuit breakers
On (Audible "click")	Don't Open	Don't Run	No constant power on RED	Check wiring connections. There must be constant power on the red wire.
Off	Don't Close	Stop	RED and BLACK are connected together	Check wiring connections. All three connections at the fan must be made individually
On	Both Open	One fan runs	Something blocking fan rotation	Turn off power and check for extraneous material blocking blade rotation
On	Both open One opens then closes then . . .	One fan runs	Door motor gears or limit switch may have been stressed during installation	Remove fan from between rafters. Test operation of the HV sitting on top of the rafters. If fan still doesn't work correctly, call for service.
Off	Both close One closes then opens then . . .	Stop	Door motor gears or limit switch may have been stressed during installation	Remove fan from between rafters. Test operation of the HV sitting on top of the rafters. If fan still doesn't work correctly, call for service.

Specifications

Voltage	115 VAC 60 Hz	R-Value through housing	R-22 (Optional R-38)
HV 1000 Power.....	112 Watts	Weight	24 Pounds
HV 1600 Gold Power	276 Watts	Rough Opening.....	14 1/2" x 22 1/2"
HV 1000 Airflow @ .03" (System)	1000 CFM	Grille Color	White ("Return Air" Grille)
HV 1600 Gold Airflow @ .03" (System)	1600 CFM	Grille Dimensions	15 3/4" x 25 3/4"

If you have a defective unit, call 800-222-5932 for a Return Merchandise Authorization (RMA) number.

Limited Warranty

If, within the period of three years from the date of purchase, the HV 1000 or HV 1600 Gold (the Product) is defective or malfunctions in normal home use, Tamarack Technologies, Inc. will repair or replace the Product at its discretion without charge for labor or materials. Customer is responsible for shipping charges.

Conditions, Exclusions, and Limitations-This Warranty is subject to the following conditions, exclusions and limitations:

This Warranty does not cover problems resulting from installation, operation or maintenance that has been undertaken other than in accordance with the instructions.

This Warranty does not cover problems resulting from defects in or caused by associated equipment (furnaces, solar, etc.); from repairs or modifications attempted by persons other than Tamarack Technologies, Inc.; from abuse, accidental or shipping damage or acts of God.

This Warranty does not apply to the Product used outside the United States,

its territorial possessions, and Canada.

Except as set forth above, no express or implied Warranty is given or authorized by Tamarack Technologies, Inc.

In no event shall Tamarack Technologies, Inc. be liable for any incidental damages or for any consequential property or commercial damages, irrespective of the cause thereof, occurring either during or after the warranty period, including without limitation any damages to any part of a building or its contents.

Any Warranty or merchantability of fitness for any particular purpose shall be limited to the Warranty thereunder.

Note: Some states do not allow the exclusion or limitation of incidental or consequential damages and some states do not allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights and you may also have other rights that vary from state to state.