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2009 Clean Air Excellence Award Winning Technology

The **HearthCAT™** Fireplace Technology

for Masonry Contractors

Revolutionary Emission Control System for Masonry Fireplace New Construction

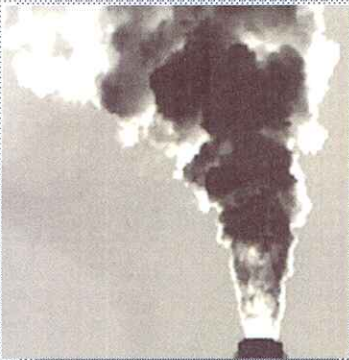
Emission Control Technology for Masonry Fireplaces

Wood smoke emissions are currently one of the most significant health risks in the US. New regulatory standards for wood burning fireplaces are being passed to reduce smoke and particulate emissions nationwide. Wood burning fireplaces are being restricted by Clean Air Regulators in almost every state. The HearthCAT Wood Burning Fireplace Technology is designed to solve this problem.



HearthCAT™
Fireplace Technology

Clear Skies Unlimited Inc. has successfully developed a wood burning fireplace emission control technology that reduces particulate emissions by as much as 90%. The HearthCAT™ system reduces airborne PM2.5 particulates in masonry fireplaces to 4.3 g/kg. This is well below the EPA Phase 2 emissions limit of 5.1 g/kg. The HearthCAT™ system is catalytic and uses a patented hood device to isolate the offensive pollutants and wood smoke. The particulates are then destroyed by a state-of-the-art catalytic system. The HearthCAT™ System can be installed in less than an hour, it doesn't require any power or connections, it is maintenance free and it is affordable to the homeowner.



The US Environmental Protection Agency is introducing a new emissions requirement that will require all wood burning masonry fireplaces to meet a projected Phase 2 emission limit of 5.1 g/kg. Existing fireplaces currently emit 12-15 g/kg of particulate pollution. There hasn't been a technological solution for masonry wood burning fireplaces to meet the new EPA Phase 2 emissions limit. . . . UNTIL NOW!

The HearthCAT™ System was tested to stringent EPA requirements at Omni Test Laboratory in Portland OR. Conclusive test data from Omni Laboratory indicates that HearthCAT™ Fireplace Technology from reduces particulates substantially in all open hearth fireplaces. *Omni Test Report # 165-F-05-3*

Clear Skies is distributing the HearthCAT™ System for masonry fireplace new construction through the Whitacre Greer Company to a nationwide network of building material suppliers and distributors. This arrangement will guarantee that the HearthCAT™ is readily available at distribution points across the country and that the HearthCAT Technology is properly installed in the new masonry fireplace for the homeowner.

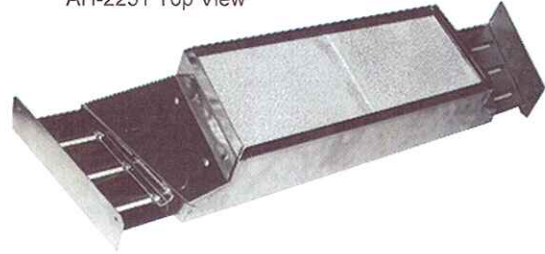
Installation Information on back page.

Fast and Easy Installation

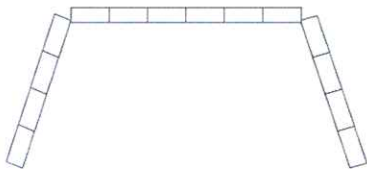
The HearthCAT™ can easily be installed in less than an hour. Four mounting screws will hold the two brackets in place. Then the HearthCAT™ is simply positioned on the mounting brackets. It's that simple. Just follow the directions as specified below:

1. The HearthCAT™ Hood is has a trapezoidal shape to fit the angular sides of the firebox. The hood is equipped with adjustable extensions that slide-in-and-out. The O2 Series hood can be adjusted for firebox back wall widths from 23" to 31".

1. Adjustable HearthCAT™ AH-2231 Top View

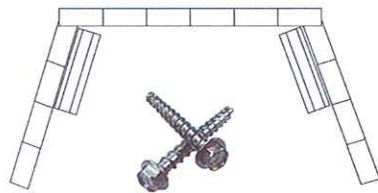


2. Typical Fireplace Firebox



2. The HearthCAT™ should be installed after the fireplace is completely built. It is designed to be installed as an add-on device. It is mounted on two brackets that are mechanically attached to the side walls of the firebox. Insure that the firebox is structurally sound before beginning the HearthCAT™ installation. The brackets will be mounted on the sides of the firebox using the (4) masonry screws (provided). It is very important to install the brackets in the proper location in the firebox as described in STEP # 3.

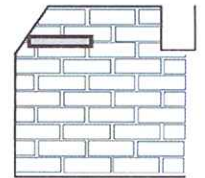
3. Install Brackets



3. The two stainless steel brackets should be attached to the firebrick on the side walls with the ends touching the back wall as shown in the diagram on the left. The height of the bracket installation is determined by the fireplace opening. The brackets should be installed so that they are even with the height of the fireplace opening (lintel). The brackets can be used to identify the

location of the mounting screw holes. A black felt tip can be used to mark the location for drilling. There will be two holes drilled on each side of the firebox. The firebrick is easily drilled with a 3/16" masonry carbide drill bit. Drill the holes to a depth of 1". A suitable hand tool should be used to attach the brackets to the sides of firebox. Insure that the brackets are installed as shown on right. There is a lip on the bracket that supports the HearthCAT™ Hood. The open end of the bracket should be facing the back of the firebox while the closed end faces the front. The closed end of the bracket will prevent the HearthCAT™ from moving after installation.

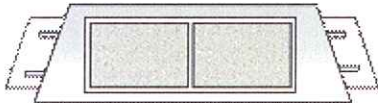
Side View of Brackets



Bracket View



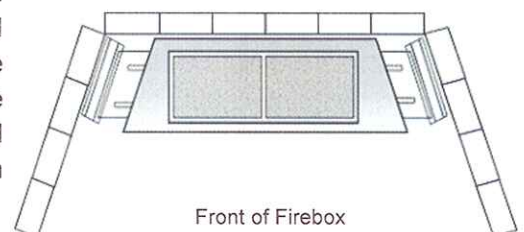
4. Adjust HearthCAT™



4. After the brackets are installed, the HearthCAT™ hood should be adjusted to the right dimension to properly fit into the brackets. Measure the distance between the installed brackets at their widest point (front). Now, move the adjustable extensions on the hood until the widest dimension on the hood extensions equals the widest dimension of the mounting brackets. The extensions should be equal on each side. Now, tighten the retention screws on each side of the hood.

5. The HearthCAT™ can now be installed in the firebox. Position the device in the brackets so that the HearthCAT™ is securely in place. The closed end of the brackets will prevent the HearthCAT™ from moving forward in the firebox. The HearthCAT™ should be located against the back wall of the firebox directly above the grate. The damper handle (if required) should pass through the opening between the combustor blocks and remain operational. Chain operated units will have the chain in front of the hood.

5. HearthCAT™ Installed



Front of Firebox

The HeartCAT™ Emission Control System is now ready for use.