An Explanation of Vent-Free Appliances:

Things to know before you choose one for <u>your</u> home

When gas combustion occurs, several things are produced: carbon dioxide, water, gaseous chemical compounds including carbon monoxide, nitrogen dioxide, respirable suspended particles (RSP), and formaldehyde.

When used sparingly (less than 4 hours per day per recommendations), the levels of these chemicals and gases are considered acceptable for residential applications because there are no standards for residential indoor air. Guess what? A 40,000 BTU vent-free heater used continuously produces high levels of pollutants. These levels exceed those allowed by OSHA or the EPA for air quality in the workplace.

The Production of a Perfectly Operating Vent-Free Appliance Is:

60% WATER VAPOR Perhaps the biggest problem vent-frees cause are excessive moisture--just too much water. An average family of 4 generates about 2.9 gallons of water in the home a day through showering, cooking, breathing, etc. Codes require ventilation in a bathroom to remove these water vapors. A 40,000 BTU vent-free heater used all day produces over 6 gallons of water a day which can penetrate walls, flooring, furniture, etc. This can decay the structure of your home, cause mold and mildew which irritates allergies and asthma. In extremely cold conditions, the water vapor can remain trapped near the roof of the house and freeze, continually collecting and freezing. As the weather warms, a home can literally become flooded with water.

39+% CARBON DIOXIDE At low levels, carbon dioxide is not thought to be dangerous. At moderately high concentrations carbon dioxide causes discomfort, raising the breathing rate and may cause minor eye irritation, particularly in people who wear contact lenses.

.1% CARBON MONOXIDE At this level, carbon monoxide may not be dangerous to healthy people but can adversely affect pregnant women, fetuses, babies and people with heart or lung problems.

A minute percentage is Nitrogen Dioxide which can hamper the immune system and increase susceptibility to respiratory infections.

IMPROPER OPERATION CAN CAUSE DANGEROUS MALFUNCTIONS!

Accumulation of dust, pet hair and other debris on the burner or logs can cause improper burning; drafts through the damper or from ceiling fans or the home's

central heating system can affect the flame and result in higher levels of carbon monoxide; improper arrangement of the logs can impede the flame, cause sooting and increase carbon monoxide; faulty or improperly maintained burners, controls and gas pressures can also lead to problematic operation and dangerously increase indoor air pollutants.

OXYGEN DEPLETION SENSORS

ODS systems are used on all vent-free products as a "safety" requirement. Highly touted as a dependable feature of vent-frees, they may mislead consumers and even sales people and installers of vent-free products.

Normal room air is nearly 21% oxygen. Since carbon monoxide displaces oxygen, the ODS system is designed to cut the appliance off if an oxygen drop below 18% is detected. Don't let this ODS theory lull you into a false sense of security. First, ODS sensors are installed on the appliance which means it's at or near floor level. It can only detect oxygen levels surrounding it; it cannot detect oxygen levels a few feet away from the appliance or where the warm air has risen or traveled to. It does NOT detect carbon monoxide. It does not detect other malfunctions in the appliance. It does not provide the level of safety or security of a carbon monoxide detector.

PROPER OPERATION The American Gas Association Research Division (AGARD) outlines proper use as less than 4 hours at a time; not to be used in a confined space; not to be used as a sole source of heat.

INCREASE YOUR SAFETY To increase your safety, it is advised that you follow manufacturers installation instructions, not rearrange log configuration and perform regular maintenance. Don't overuse vent-frees for extended periods of time or as the sole source of heat.

Ideally you should make sure there is adequate air flow for combustion and a means to remove fumes and moisture. The best system for meeting these guidelines is a chimney!

Vented gas products (those with a chimney or vent system) remove these harmful irritants from your home, they don't smell bad and can be used for as long as you like without the health consequences you may suffer from vent-frees.

VENT-FREE WARNINGS

Vent-Free Warnings:

-Don't use if anyone in the house is pregnant, diabetic, anemic or suffers from

heart or respiratory problems

-Cannot be used as a sole or main source of heat

-Cannot normally be installed in a bedroom or bathroom

-Cannot be installed in a "confined space" where fumes may not be properly dispersed

-Should not be installed if the fireplace or chimney is in disrepair

Vented appliances address all these common home issues. Wouldn't you really rather vent those fumes OUT of your home through a chimney or vent?

SOOT *should never be visible on a vent-free log set nor certainly in a home where one is used. Soot is made up of tiny* ***carbon*** *particles. Where carbon is visible, it means carbon monoxide was produced as well. Visible carbon indicates a malfunctioning appliance that should not be used until serviced by a qualified technician.*

This article reprinted, with permission, from The Fireplace Channel

www.thefireplacechannel.com