

February, 2003

Range Hood basics

Home ventilation is supposed to improve indoor air quality. In a case of more is not necessarily better, high powered range hoods may not be the answer. Some of these behemoths are capable of drawing up to 1200 CFM (cubic feet per minute) of air out of the home. To put this in perspective, the furnace in a 2000 sq ft home moves about 1400 CFM of air to condition the entire house!

The result of a oversized range hood can be depressurization of the home, causing outside air to come into the home where it's not wanted. This can cause "back drafting" of the water heater, bringing carbon monoxide from the water heater into the home. Also, cold winter air drawn back into the building envelope can cause condensation were it meets the warm interior air, an environment conducive to mold growth. We've all heard plenty about mold in the last few years!

Solutions

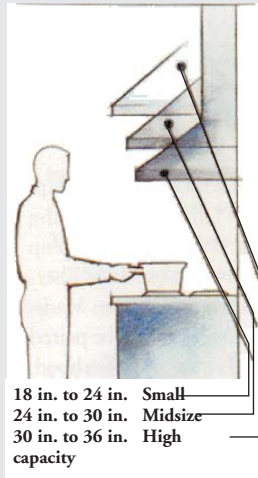
So what can we do to prevent these unseemly scenarios? The first step would obviously be to properly size the range vent for no more exhaust than is needed. The Home ventilating institute has various methods of computing this. One method recommends 15 air changes per hour. To figure this you would calculate the cubic feet of air contained in the kitchen and multiply by 15, then divide by 60 (cubic feet per minute.)

A more precise method might be to deal with the immediate area where you intend to cook. For an average range the Home Ventilating Institute recommends a range hood capacity of 40 to 50 CFM per linear foot of cooking surface. Cook tops on a peninsula, or an island in the middle of the room would run towards the higher side of the equation.

Monster ranges do require larger hoods. For this the industry often uses a third method for sizing the fan, the 100 - to - 1 rule: For every 100 BTUs of heat generated by the range, the fan should exhaust 1 CFM of air. That means a gas range with four 15,000 Btu burners all going at once should exhaust 600 CFM of air.

Placement of the fan also makes a difference. Two problem areas are downdraft ventilation and the island hood. Down draft hoods are sleek in appearance, but they are fighting the laws of nature. Since the hot air rises, they are at an immediate disadvantage when it comes to capturing steam and cooking byproducts. Island hoods will have to work harder to compete with cross currents of air, which can reduce efficiency.

Manufacturers make their own recommendations on how high the hoods should be located above the cooking surface. The illustration is a general rule of thumb. Extending the hood 3" beyond either side of the range will increase efficiency, as will a hood which protrudes farther from the wall.



Now that we've properly sized your range hood to your cooking style, and properly located it, what will we do for make up air?

Although there is some air leakage in your home, by the very nature of how we build, it is minimal.

Probably enough for a small range hood, but not enough for a larger unit. For example, a range hood exhausting 200 CFM of air would need a 24" window cracked 5 inches to provide the 113 - sq-in area needed to feed the fan.

Looking to areas with building codes stricter than ours is not a lot of help. Canada's National Building Code requires that a separate fan be wired to blow air into the same space when any exhaust device moves 160 CFM or more from a room. No provision is made for heating this make up air!

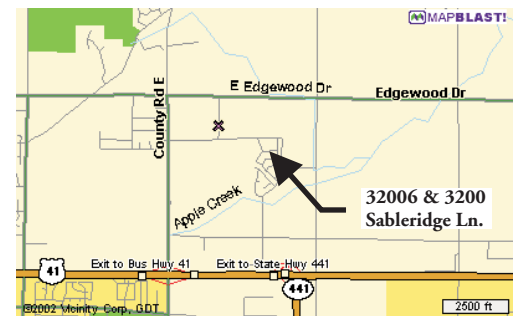
Interestingly, no range hood manufacturer currently provides an integrated make up air solution. One option I found on the Internet, is a an "air switch" in an exhaust duct which senses when air is flowing, and automatically opens a make up air. We at Homes by Bill Rounds currently use a similar method (a relay) which senses when the bath fans are on, opening a make-up air damper, and closing it when the fans are turned off (see newsletter 2000, issue #3).

If you'd like more info on this subject try:
www.oikos.com
www.sirius.com

I also found a very informative article in the Annual "Kitchens & Bath" issue of Fine Home Building (winter, 2002)

Winter Parade

The 2003 Winter Parade of homes is rapidly approaching. This year's line up will include 48 homes. Our entry will be located at 3206 Sableridge Lane, in Appleton. Located in the Providence Trails IV sub-division, this story and a half design features 2330 square ft of good livin'!



You'll find ceramic tile floors, hardwood floors, and a nice sized 1st floor master suite complete with whirlpool. The Great Room ceiling stretches nearly 12 feet above the floor. The view from the foyer, past the open stairs is one of the fireplace flanked by a wall of windows.

The Winter Parade will run from Feb. 15th through the 23rd.

Times are:

Saturdays and Sundays - 11 a.m. To 5 p.m.
Thursdays and Friday 4 p.m. To 7 p.m.

Tickets are available at our Parade Home, as well as at each participating home.
Adults - \$9, Children - \$5

New Spec home offered

Also in this same neighborhood, (right next door in fact) is another of our spec homes. This example of the 2 story Abigail is 2360 sq ft of four bedroom colonial. Photos of a previous example can be found on our web site under Completions, 3119 Gazebo Hill Rd.

Home Building Seminar

Community First Credit Union is once again offering their seminar on new home construction Saturday, March 15th from 9:00 to 11:00 am. This popular seminar will cover topics such as choosing a lot, choosing a floor plan, developing a budget, title insurance and more! Our own Bill Rounds will be represent the building portion of the program. Contact Community 1st at (920) 830-7200 to reserve you seat. This event always fills fast, so call ahead!