

SPACE-SAVING KITCHEN PLANS | MAKE COLOR WORK FOR YOU

Beautiful Kitchens

30 Ways to
Upgrade on
a Budget

Family-Friendly
Makeovers

46
Designs
that Work

43 Must-Have Storage Tips
Real-Life Remodeling Solutions

Ideas & Inspiration Series
Volume 4
U.S. \$14.99
Canada \$15.99
Display until
January 18, 2008



Ventilation Systems

A POT OF SOUP SIMMERING ON THE STOVE, vegetables stir-frying in a wok, and a steak sizzling on an indoor grill...it all sounds tasty, but they all send off a lot of residue that doesn't belong in the air. The more adventurous the cooking in a kitchen, particularly on the cooktop, the more ventilation it needs.

Grease, smoke, and cooking odors can cling to walls, ceilings, and draperies, and the combination of intense heat and water will produce condensation that can damage walls and cause paint and wallpaper to peel. Gas cooktops add nitrogen dioxide, carbon dioxide, and carbon monoxide—three toxic, unwelcome gases. Proper ventilation, however, can make all of these problems disappear, leaving a cleaner kitchen and a safer, fresher home.

CLEARING THE AIR

Practically speaking, kitchen ventilation falls into two categories: updraft and downdraft. Updraft systems install directly over the cooking surface, be it on an island or along the wall. In either case, the ventilation system, housed in a vent hood, gathers contaminated vapors that rise naturally during the cooking process and traffics them to the outside using a blower that pushes them through a series of ducts. Because hot air rises naturally, updraft has physics in its favor.

Downdraft designs, integrated into the surface of some ranges and cooktops, function by pulling dirty air across the cooking plane and down through an exhaust duct that leads outside the home. Downdraft is popular on islands, peninsulas, and other places where a clean line of sight overhead has some benefit. Most downdraft systems are retractable; pushing a button brings the unit up for cooking and sends it back flush with the cooktop afterward. The prime drawback for this option—and it's significant—is that because downdraft units typically rise less than 10 inches above a cooking surface, they work best with low pans, and pollutants from tall pots can elude the pull of the fan. In households where all the pots are 10 inches or shorter, downdraft can work fine.

If the ducts from the hood or downdraft unit don't lead outside the house, then the kitchen doesn't really have any ventilation at all. Those over-the-range microwaves with the built-in fans tend to fall in this category. Such contraptions are more aptly labeled filtration units and have a limited ability to reduce grease, smoke, heat, and odors. Homeowners with gas appliances should particularly



strive to avoid these non-vented fans, as they can't remove combustible gases from the air, and they require regular cleaning or replacement even to serve their nominal filtration function.

POWERFUL PERFORMANCE

The performance of kitchen ventilation equipment is rated according to the volume of air a system can move in one minute. This measure, called cubic feet per minute, or cfm, varies from 100 to 1,500. The higher the number, the more efficiently the unit will evacuate contaminants from a kitchen—and the more noise it's likely to make.

Kitchen-industry standards state the minimum rating for a system installed over a standard gas or electric range or cooktop should be at least 150 cfm. With professional-style gas appliances, the minimum jumps to 600 cfm, although the wise homeowner will check the range or cooktop manufacturer's specifications before installing any ventilation system. If the Btus are particularly lofty, the 600-cfm minimum becomes insufficient.

To help simplify the purchasing process, major manufacturers have joined the Home Ventilating Institute (HVI). This nonprofit group tests products independently and certifies cfm performance ratings, helping to reduce some consumer guesswork. (Its Website, www.hvi.org, has more information.)

THE PERFECT FIT

For peak performance, all updraft and downdraft designs should be the same width as the cooking surface. In other words, a 30-inch range needs a hood or a downdraft vent that's at least 30 inches wide. Going a little overboard is fine, too; some designers recommend an extra 6 inches of width, 3 on each side. The hood should also be deep enough (from the wall out, for example) to reach the middle of the front burners. The distance between the cooking surface and the hood should be 18 to 24 inches, hood manufacturers say.

A hood over an island cooktop needs a more powerful motor than its wall-mounted counterpart for the same size of cooktop, because crosscurrents of air move heat and pollutants in multiple directions. A good rule of thumb is to install the hood 24 to 30 inches above the cooktop and to have all four sides

