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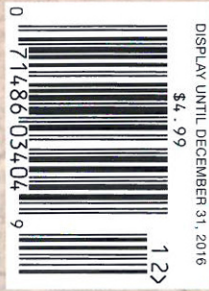
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RANGE HOODS

An Air of Confidence

TOP PERFORMERS IN UNDER-CABINET, CHIMNEY-STYLE & DOWNDRAFT MODELS

The first range hoods that include a system that automatically turns on the units when it detects that you started to cook were introduced. Meanwhile, engineers and scientists are moving closer to approving the first standard for measuring a range hood's efficiency in capturing pollutants.

A Consumers Digest Staff Report

Range-hood manufacturers love to trumpet their models' high blower speeds and unique designs, but five ventilation experts tell us that most consumers don't bother to turn on their range hood until their kitchen is full of heat, moisture and smoke. All experts recommend that you turn on your range hood when you start to cook, even if you just heat water in a small pot. By turning it on when you start to cook, your range hood will create a better draft for proper ventilation, which will extract the air, moisture and smoke out of your home most effectively, experts say.

WHIRLPOOL



What would be even better is a range hood that turns on automatically. Previously, ventilation experts told us that the ideal range hood would be a model that turns on automatically when it detects that you started to cook. That's why Elica's Stream sensor system is so notable. As of press time, the system was expected to be available in March 2017 in the United States in five range hoods (starting at \$999). Those range hoods will be compatible with Elica induction cooktops (starting at \$1,999).

The Stream system's sensors in the cooktop and range hood communicate

with each other. Matt Holmes of Elica says that when you turn on a burner, the cooktop signals the range hood, which turns on and automatically sets itself at a ventilation speed that's based on the size of the burner and how much power that the burner is capable of producing. As you continue to cook, the range hood continues to monitor the moisture and temperature and increases or decreases the blower speed as needed, Elica says. After you finish cooking, the range hood keeps its blower on until it senses that the moisture and temperature levels dropped to normal levels. It then turns

itself off. If you prefer, you can take the range hood off autopilot and operate it as a traditional range hood.

Elica launched the range hoods and cooktops in March 2016 in Europe. Unfortunately, we were unable to find any independent expert in Europe who has used it.

Most manufacturers sell at least one line of range hoods (starting at \$300, compared with \$400 before) that includes a built-in heat sensor. These built-in heat sensors don't communicate with a cooktop, however. Instead, the sensors monitor the temperature that's

above the cooking surface and turn on the range hood's blower if the sensor detects that the temperature exceeds a certain level.

Unfortunately, only excess heat triggers a heat sensor. If you simmer a sauce on low, you might create a lot of vapors without producing much heat. In other words, if you aren't creating enough heat, the range hood's blower won't turn on. By the time that it finally turns on, your kitchen already might be filled with heat, moisture and pollutants.

"We would really like to see it required one day that range hoods sense



Zephyr
Roma Island
ZRM-E36CS

Best Buys in Range Hoods

Best Buy Categories

[P]=Premium selection
[M]=Midrange selection
[E]=Economy selection



SEE PAGE 64

Best Buys in range hoods were selected based on performance and features.

All Best Buy range hoods have internal blower motors.

All Best Buy chimney-style island and downdraft range hoods are available in stainless steel.

All Best Buy under-cabinet, chimney-style wall and downdraft range hoods are 30-inch wide models. All Best Buy chimney-style island range hoods are 36-inch wide models.

cfm=cubic feet per minute.

Maximum blower speed sometimes is measured in ideal settings that have limited or no obstructions, so it might not be the speed that's achieved when you use the range hood. Most consumers don't

require the full power that's listed on high-power range hoods.

Best Price is a reflection of the lowest retail price that was available at press time and is subject to change.

UNDER CABINET

[P] KitchenAid KXU2830YSS

MSRP: \$1,049; Best Price: \$854

>> The KXU2830YSS, which is a repeat Best Buy selection, still provides exceptional value for its price. It's the lowest priced slide-out under-cabinet range hood that combines a four-speed blower system, LED lights and a canopy that retracts and can be hidden by cabinetry when the range hood isn't in use. The KXU2836YSS (\$1,149), which is 36 inches wide, is also a Best Buy.

Features:

- * Maximum blower speed: 400 cfm
- * Blower speeds: 4
- * Color: Stainless steel
- * Warranty: 1 yr.



Elica Volterra
EVL430S1

[M] Zephyr Typhoon AK2100BB/AK2100BW

MSRP: \$679; Best Price: \$599

>> We found that the Typhoon AK2100BB (black) and Typhoon AK2100AW (white), which are repeat Best Buy selections, have the most adjustability in blower speed among all of the under-cabinet range hoods that we evaluated.

The warranty that the manufacturer issues for these models is the best that we found among all of the under-cabinet range hoods that we evaluated by 7 years. The stainless steel AK2100BS (\$739) is also a Best Buy. Models that are 36 inches wide and are otherwise identical, the black AK2136BB (\$709), white AK2136BW (\$709) and stainless steel AK2136BS (\$759), are also Best Buys. The stainless steel AK2142BS (\$829), which is 42 inches wide, and the stainless steel AK2148BS (\$879), which is 48 inches wide, are also Best Buys.

Features:

- * Maximum blower speed: 850 cfm
- * Blower speeds: 6
- * Colors: Black, white
- * Warranty: 10 yrs. parts; 1 yr. labor

[E] Elica Nemi ENM230BL/ENM230WT

MSRP: \$181; Best Price: \$181

>> The Nemi ENM230BL (black) and Nemi ENM230WT (white), which are repeat Best Buy selections, have an unmatched combination of features among under-cabinet range hoods that are in this price range. No other economy model has a better warranty than do these models. The stainless steel ENM230SS (\$201) and the 36-inch wide stainless steel ENM236SS (\$221) are also Best Buys.

Features:

- * Maximum blower speed: 280 cfm
- * Blower speeds: 3
- * Colors: Black, white
- * Warranty: 2 yrs.

CHIMNEY-STYLE WALL

[P] Futuro Futuro Moon Crystal

MSRP: \$2,200; Best Price: \$1,495

>> The Moon Crystal provides an outstanding combination of features for its price. This model is the lowest priced chimney-style wall range hood that we evaluated that includes a 3-year warranty, four blower speeds, a 15-minute

delayed shut-off feature and digital touch controls. The Acqualina (\$2,400), which has LED lights instead of halogen, is also a Best Buy. Models that are 36 inches wide and are otherwise identical, the Moon Crystal (\$2,200) and the Acqualina (\$2,500), are also Best Buys.

Features:

- * Maximum blower speed: 940 cfm
- * Blower speeds: 4
- * Color: Stainless steel and glass
- * Warranty: 3 yrs.

[M] Zephyr Tempest II Pro-Style AK7500BS

MSRP: \$1,199; Best Price: \$1,099

>> The Tempest II Pro-Style AK7500BS, which is a repeat Best Buy selection, has the best combination of maximum blower speed and number of blower speeds of any chimney-style wall range hood that we evaluated in this price range. No other chimney-style wall range hood has a better warranty than does this model. The 36-inch-wide AK7536BS (\$1,299), the 42-inch-wide AK7542BS (\$1,399) and the 48-inch-wide AK7548BS (\$1,499) are also Best Buys.

Features:

- * Maximum blower speed: 650 cfm
- * Blower speeds: 6
- * Color: Stainless steel
- * Warranty: 3 yrs. parts; 1 yr. labor

[E] Elica Potenza EPT430S1

MSRP: \$403; Best Price: \$403

>> You'd have to pay at least an

additional \$300 to get a chimney-style range hood that has a higher maximum blower speed or more blower speeds than does the glass-canopy Potenza EPT430S1. This model also has the longest warranty of any chimney-style wall range hood that we evaluated in this price range. The Volterra EVL430S1 (\$443), which is pyramid-shaped, and the Toblino ETB430S1 (\$453), which has a right-angle design, are also Best Buys. Models that are 36 inches wide and are otherwise identical, the glass-canopy Potenza EPT436S1 (\$453), the pyramid-shaped Volterra EVL436S1 (\$494) and the right-angled Toblino ETB436S1 (\$503), are also Best Buys.

Features:

- * Maximum blower speed: 400 cfm
- * Blower speeds: 3
- * Color: Stainless steel
- * Warranty: 2 yrs.

CHIMNEY-STYLE ISLAND

[P] Futuro Futuro Positano

MSRP: \$2,650; Best Price: \$1,795

>> The Positano delivers the best combination of features of any chimney-style island range hood

that we evaluated. We like this model's illuminated control panel and electronic reset, which saves your settings in case of a power outage. The white Minimal White (\$2,650), the curved stainless steel Moon Innox (\$2,650), the curved tempered-glass Venice (\$2,650), the curved tempered-glass Moon Crystal (\$2,800) and the ultrathin Streamline (\$2,800) are also Best Buys.

Features:

- * Maximum blower speed: 940 cfm
- * Blower speeds: 4
- * Warranty: 3 yrs.

[M] Zephyr Roma Island ZRM-E36CS

MSRP: \$1,249; Best Price: \$1,149

>> The Roma Island ZRM-E36CS, which is a repeat Best Buy selection, has the most blower speeds and the best warranty of any chimney-style island range hood that we evaluated. An extension kit (\$369) allows this model to reach a 12-foot ceiling. The ZRM-E42CS (\$1,349), which is 42 inches wide, is also a Best Buy.

Features:

- * Maximum blower speed: 600 cfm

* Blower speeds: 5

* Warranty: 3 yrs. parts; 1 yr. labor

DOWNDRAFT

[P] KitchenAid KXD4630YSS

MSRP: \$1,199; Best Price: \$1,099

>> The KXD4630YSS is the only downdraft range hood that we found that costs less than \$2,000 and includes the notable combination of an internal blower, four blower speeds and dishwasher-safe grease filters. The KXD4636YSS (\$1,249), which is 36 inches wide, is also a Best Buy.

Features:

- * Maximum blower speed: 600 cfm
- * Rise height: 14 in.
- * Warranty: 1 yr.

[M] Zephyr Sorrento DD1-E30AS

MSRP: \$849; Best Price: \$539

>> You'd have to pay at least an additional \$200 to get a downdraft range hood that has a higher blower speed than what the Sorrento DD1-E30AS delivers. You'd have to pay at least an additional \$350 to get another model that has a 2-year warranty. The Sorrento DD1-E36AS (\$929), which is 36 inches wide, is also a Best Buy.

Features:

- * Maximum blower speed: 500 cfm
- * Rise height: 9-1/2 in.
- * Warranty: 2 yrs.

For more information about the above Best Buys, contact the manufacturers directly. See page 56.



KitchenAid KXU2836YSS



KitchenAid KXD4636YSS

when a cooking burner is turned on and turn on automatically,” says Dr. Iain Walker of Lawrence Berkeley National Laboratory. “Most cooks don’t want to monitor their household indoor air quality. They just want their range hood to work. To make that happen is going to require some degree of automation.”

No other manufacturer tells us that it’s developing a similar system to Elica’s, but like Walker, we hope that such systems are common before long to reduce the chance that consumers might forget to turn on their range hood.

For now, Elica’s system works only with Elica induction cooktops. Gas and electric cooktop compatibility might come by 2018, Holmes says. (Elica still is developing gas and electric cooktops for the United States.)

We’ll be happy to see automatic sensors come to electric and gas cooktops, because they produce far more pollutants than do induction cooktops.

“In electric and gas cooking, the glowing red element and the naked flame produce a lot of the chemicals that we’re trying to get rid of, a lot of extra pollutants,” Walker says.

Meanwhile, an induction element doesn’t produce those chemicals.

CAPTURE THE HEAT. Years ago, experts at Berkeley Lab began to work with ASTM International, which is a standards organization, on the first standard for testing a range hood’s efficiency in capturing pollutants. That’s important, because the so-called capture efficiency of two range hoods can vary widely, even if the two range hoods have the same airflow.

Berkeley Lab started to develop the standard after conducting a study that determined that range-hood airflow often fell below advertised airflow rates and that, in some cases, less than half of the pollutants that gas burners produced were removed during operation.

“You could have a high airflow rating and poor capture efficiency,” Walker says. “The airflow rating doesn’t tell you everything that you need to know in determining how well the pollutants are captured and sucked up and sent out of the kitchen and outside. Capture efficiency is a much better metric for that.”

As of press time, the first of two



Zephyr Tempest II
Pro-Style AK7500BS

ASTM committees was expected to finish reviewing the standard by Sept. 28, 2016. If the reviews go smoothly, a final version might be approved by the end of September 2017, Walker says.

After it’s approved, the test will become part of American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 62.2, which is a residential ventilation standard for buildings that are three stories or fewer. Any builder that builds a home in accordance with ASHRAE 62.2 will have to use a range hood that meets the minimum capture efficiency that’s in ASHRAE Standard 62.2.

Manufacturers still will be able to make noncompliant range hoods. Those range hoods just couldn’t be used when the 62.2 standard is required. Ultimately, Walker believes that capture efficiency will be another specification that manufacturers use in their marketing.

In developing the standard, Berkeley Labs analyzed the capture efficiency of dozens of range hoods.

“We found that there’s a big range in performance,” Walker says. “The good ones capture more than 95 percent of pollutants, but there are also terrible ones that capture just 50 percent. Some range hoods work very well at a lower airflow, and some don’t.”

Ideally, you want a range hood that has a high capture-efficiency rating and an airflow of less than 400 cubic feet per minute (cfm). Most building codes specify that if you install a range hood that has an airflow of at least 400 cfm, you have to install a dedicated makeup-

air system to avoid backdrafting problems in your home. Walker hopes that the test standard will make it possible for consumers to identify range hoods that have high capture-efficiency ratings and low airflow ratings.

The scientists found that range hoods that are deeper so they come out farther from the wall than do others typically capture more pollutants. If a range hood doesn’t come out far enough from the wall to hang over a cooktop’s or a range’s front burners, then it typically has a much more difficult time capturing pollutants, particularly from the front burners of a cooktop or range, Walker says. Range hoods that have a large capture surface, rather than small capture surfaces that are targeted toward specific burners, also typically have high capture-efficiency ratings, he says.

You should keep in mind that a range hood’s capture-efficiency rating might not be the same as what a range hood captures in your kitchen, Walker says. Range-hood capture efficiency can vary from kitchen to kitchen depending on the range hood’s installation, how well that air flows through your duct and the layout of your kitchen, he says.

“If we say a range hood has an 80 percent capture efficiency, that does not guarantee 80 percent in your kitchen,” Walker says. “It could be a little higher, it could be a little lower.”

In other words, Berkeley Labs isn’t trying to predict the capture efficiency in your home accurately. It’s trying to develop a standard that fairly compares different range hoods. ◀