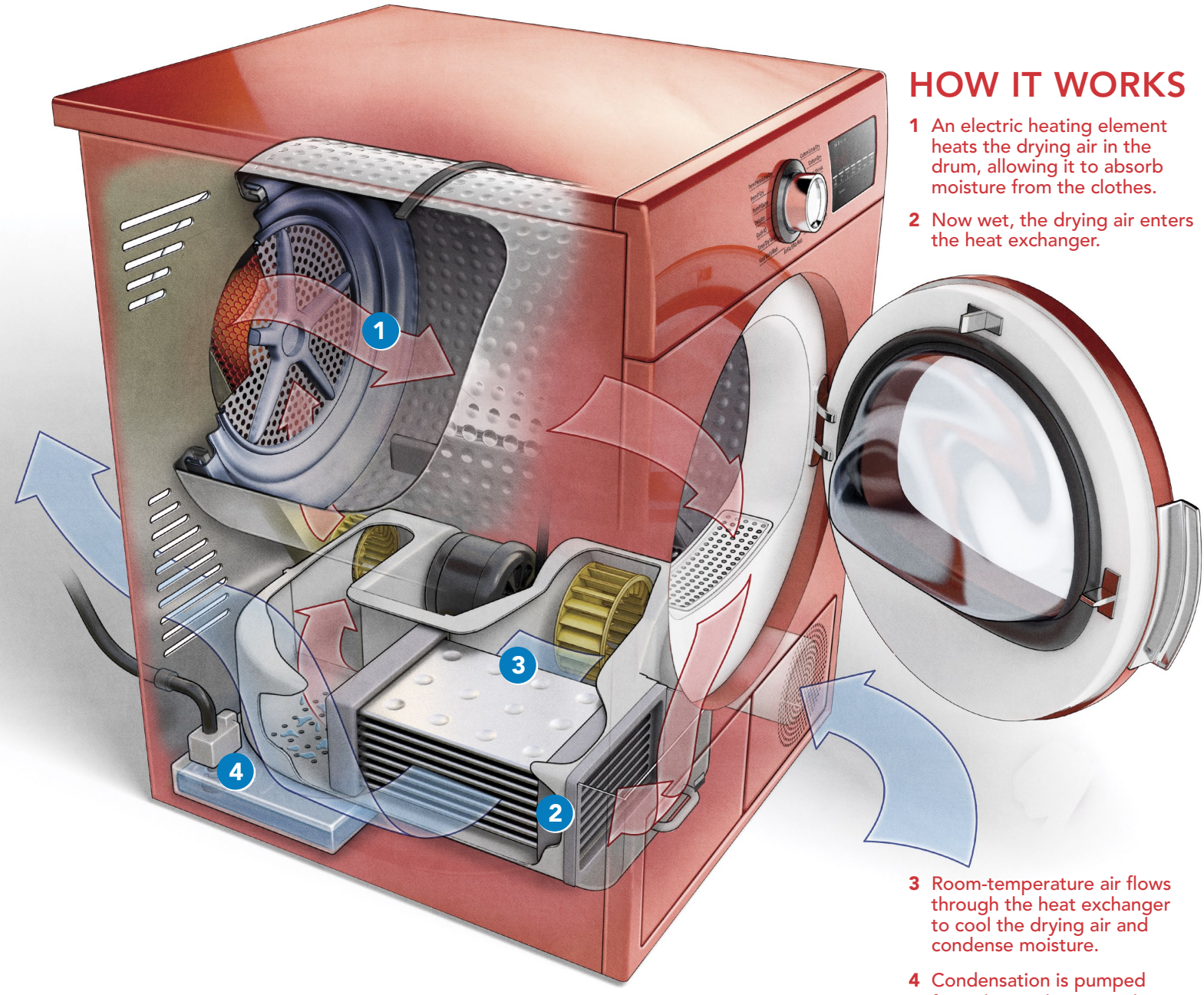
Should Your Next Dryer Be Ventless?

Condenser dryers don't make sense for every house, but are a great solution when venting isn't an option

BY KRISTINE KLEIN



HOW IT WORKS

1 An electric heating element heats the drying air in the drum, allowing it to absorb moisture from the clothes.

2 Now wet, the drying air enters the heat exchanger.

3 Room-temperature air flows through the heat exchanger to cool the drying air and condense moisture.

4 Condensation is pumped from the machine to a drain.

Drawing: John Hartman. Photo: courtesy of Whirlpool.

Most dryers sold and installed in the United States continuously draw fresh air from the laundry room, heat it before it picks up moisture from the wet clothes, and then vent the hot, moist air out of the house. Not only is this a literal energy suck, but if you don't have the space for lengthy ductwork or want to locate your laundry room against an interior wall, you'll have to make a choice: hang a clothesline, or go with an unvented dryer.

There are two types of dryers that do not need to be vented outside. The first type, commonly referred to as "ventless dryers" or "condenser dryers," have an electric heating element (as shown in the drawing on the facing page). Through a heat-exchange process, the air used to dry the clothes releases its moisture inside the machine and can therefore be reheated and reused throughout the drying cycle—no need for venting.

The second type, known as "heat-pump dryers," use the same technology as an air conditioner (running in reverse) to heat the air used to dry the clothes. As the air passes through the heat pump, the cold coil condenses the water vapor and the hot coil heats up the air to be recycled. Again, no need for venting.

Both condenser dryers and heat-pump dryers have either a pipe or tank to drain or collect the condensation. Some offer both options.

Both condenser and heat-pump dryers can be placed just about anywhere within the house, but factors such as speed, capacity, cost, and energy usage should be considered before you add an unvented dryer to your laundry room.

Not all small dryers are ventless, but most condenser dryers on the market in the United States are 24-in. compact models. This is because they are commonly chosen as a necessity when space is limited and there isn't ample room to install ducting. Heat-pump dryers, on the other hand, often have a drum capacity similar to conventional dryers.

Unvented dryers have longer cycles than traditional vented machines because of the heat-exchange process, which requires ambient air to serve as a coolant—and the catalyst for condensation—for the wet air exiting the drum. This process lengthens the drying-cycle time. When it comes to drying times, conventional vented models remain the quickest, condenser dryers are the slowest, and heat-pump dryers stand somewhere in the middle.

Vented dryers are the most affordable option, while heat-pump dryers are the most expensive. But both types of unvented dryers are more energy-efficient than common vented models. Heat-pump dryers in particular are known to require as much as 50% less energy than conventional ducted dryers. □

Kristine Klein was *Fine Homebuilding*'s editorial intern.

KNOW BEFORE YOU BUY

- Expect drying to take longer than it would with a vented dryer. Most models have speed settings that get the job done faster, but are less energy efficient.
- Condenser dryers are tempting for their ease of installation, but have some inherent trade-offs and require additional maintenance you should be aware of before making a purchase.
- Dirty lint filters extend the drying time and increase energy consumption, so they should be emptied after each cycle. The heat exchanger also traps lint; it should be cleaned out with water every few months.
- If the dryer relies on a water-collection tank, not a drain, to dispose of condensate, the tank must be emptied every two to four loads, depending on load size.
- Throughout the unvented drying cycle, the temperature of the room will increase a bit; less so with a heat-pump model.
- Condenser dryers don't get as hot as vented models and are therefore gentler on your clothes, which is better for them in the long run.

AT A GLANCE

Capacity 4.3 cu. ft., 24 in. wide (condenser); 7.4 cu. ft., 33 in. wide (heat pump)

Cycle length
Up to three hours

Manufacturers Bosch, Electrolux, Kenmore, LG, Miele, Whirlpool

Estimated price
$1000 (condenser)
$1400 (heat pump)