

Advanced Clothes Dryer Technologies

You may not have ever thought about opportunities to get anything other than a standard clothes washers. However, there are many different options available to consumers. Gas dryers are discussed in the Clothes Dryer Equipment Guide. Additional features are included below:

Clothes Dryer Controls: Temperature Sensors

There are currently two options in automatic sensor technology. The first is the more common and less accurate temperature sensor. A thermometer reads the temperature of the exhaust air leaving the dryer. As wet clothes become dry the temperature of the exhaust rises. The sensor detects when the air temperature increases by a certain amount, temporarily shuts off the heater and advances the control knob a notch, and starts in again. By choosing "More Dry" or "Less Dry" or somewhere in between, you control how many advances the knob will make before the dryer stops. (On some dryers this knob works better than others.)

It is estimated that temperature sensor controls save about 7 to 10 percent of drying costs compared to a simple manual timer. However, there is a wide variation in sensor effectiveness between different models. You tend to get what you pay for.

Clothes Dryer Controls: Moisture Sensors

The more accurate moisture control has small devices within the dryer drum that actually sense the level of moisture as clothes brush against them. This option is somewhat more expensive, but lasts longer and is estimated to save about five percent more of the drying energy than the temperature sensor.

Either automatic control should get your clothes dry. The danger with less accurate sensor is that it may over-dry your clothes, wasting energy and money, and leaving your clothes with more wrinkles and static. The added wear and tear also reduces the life of your clothing.

New Technologies: A Washer That Dries Too?

Believe it or not, one of the best ways to lower your drying costs may be with a better a washing machine. Although only a few are manufactured at this time, washing machines that spin faster can reduce the amount of time it takes to dry your clothes. Most American washers spin at about 550 revolutions per minute (rpm), removing 25-45 percent of the moisture from the clothing. A higher spin speed of 850 rpm could reduce the moisture content another 25-40 percent, saving your dryer a lot of work. Horizontal axis washers significantly reduce drying time. Keep your eye out for the new energy efficient washers.

New Technologies: Heat Pump Dryers

The heat pump dryer uses a refrigerant cycle to dehumidify recapture heat from the exhaust air and recirculate it through the dryer. It looks like a conventional dryer but requires only 110-120 V power and no exhaust vent, so that it could be installed anywhere in the house. (It does require a condensate line, which could be hooked in with that of a neighboring washing machine.)

The heat pump dryer is now in the prototype stage with a residential model, and industrial designs are already on the market.

Early estimates indicate that the heat pump dryer could save about 60 percent of the energy of a conventional electric dryer, but testing is still in the preliminary stages. The bad news is that this new dryer is likely to cost about \$300 more than a conventional dryer, and you would still be better off with a gas dryer if gas is available in your area

Additional advantages to heat pump dryers may be that they will be less likely to overheat delicate fabrics, will not produce "static cling", and present no fire risk

New Technologies: Microwave Dryers

A prototype also exists for a dryer that uses microwaves to dry clothes, much like a microwave oven is used to warm food. This model runs 40°-50° F cooler than a standard electric dryer, causes less lint build up, produces no static electricity and would reduce drying time by about 25 percent. To avoid problems with metal objects such as zippers and belt buckles, the prototypes switch to electric resistance heaters for the end of the cycle when clothes are almost dry.

The microwave dryer could save about 17-25% of the energy used by a conventional electric dryer, but would still cost more to run than a gas dryer. Purchase cost estimates vary from \$30 to \$395 more than conventional models and some technical problems remain.

New Technologies: Energy Saving Features

There are some advances in dryer technology that are not yet commercially available. For instance, some features that could reduce energy use include added drum insulation, a dryer that reuses its own exhaust heat, and a two-speed fan which would allow the user to choose to dry the clothes slowly with less energy, or at the usual speed and energy use.