

MAJOR APPLIANCES

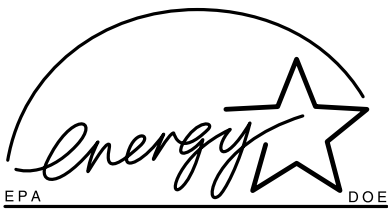
Have Two Price Tags

Every appliance has two price tags. The first is the price you pay when you purchase the appliance. The second is the cost of operating the appliance over its lifetime. You might be surprised if you consider how much it costs to operate an appliance compared to what seemed to be a good deal when you purchased it.

When you shop for a new appliance, look for the ENERGY STAR® label. Appliances with this label usually exceed minimum federal standards by

a substantial amount. ENERGY STAR® rated products are always among the most efficient available today.

Also look for the EnergyGuide label displayed on most major appliances. The bright yellow and black EnergyGuide labels do NOT tell you which appliance is the most energy efficient, but they will tell you how much it will cost to operate the appliance so you can make your own comparisons.



■ REFRIGERATORS & FREEZERS

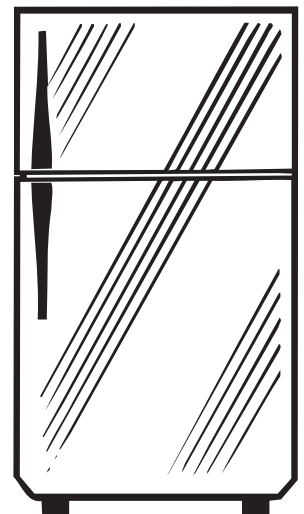
REFRIGERATORS

The refrigerator uses more electricity than any other kitchen appliance. It can account for as much as 15 percent of a home's total energy usage. ENERGY STAR® refrigerators incorporate a number of advanced features to save at least 30 percent in energy costs compared to standard models built before 1993. An ENERGY STAR® refrigerator saves between \$35 and \$70 in energy costs per year. That savings can equal to \$525 to \$1,050 savings in operating costs over the life of a refrigerator.

Refrigerators no longer use environmentally damaging chlorofluorocarbon (CFC) refrigerants. Models

produced after July 2001 will have to be 30 percent more efficient than previous models, and models made after 2003 must also have insulation that doesn't have hydrochlorofluorocarbons (HCFCs) that harm the ozone layer. If every household in the U.S. had the most efficient refrigerators available, electricity savings would eliminate the need for more than 20 large power plants.

To make a better refrigerator, manufacturers use better insulation, more efficient compressors, improved heat transfer surfaces, and more precise temperature and defrost mechanisms. The EnergyGuide label on a new

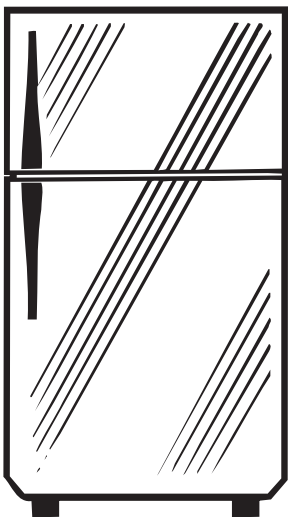


refrigerator will tell you how much electricity in kilowatt-hours (kwh) a particular model uses in one year. The smaller the number, the less energy the refrigerator uses and the less it will cost you to operate. Also look at the ENERGY STAR® label. ENERGY STAR® refrigerators must

exceed minimum federal standards for energy consumption by at least 20 percent. ENERGY STAR® refrigerators are available at appliance retailers nationwide. Not all retailers and manufacturers are using the ENERGY STAR® label to identify their efficient products, but many do.

CONSUMER TIPS

- ❖ Top-freezer models are more efficient. They use 7-13 percent less energy than side-by-side models.
- ❖ Manual-defrost refrigerators use half the energy of automatic defrost models but must be defrosted periodically to remain energy efficient.
- ❖ Refrigerators with automatic moisture control have been engineered to prevent moisture accumulation on the cabinet exterior without the addition of a heater. This is not the same thing as an "anti-sweat" heater. Models with an anti-sweat heater will consume 5 to 10 percent more energy than models without this feature. Look for a model that has an "energy saver" switch that allows you to turn off or turn down the heating coils (which prevent condensation).
- ❖ The most energy-efficient models are in the 16-20 cubic foot sizes. Generally, the larger the refrigerator, the greater the energy consumption.
- ❖ Keep your refrigerator or freezer at the following temperatures: 37 to 40 °F for the fresh food compartment of the refrigerator and 0-5 °F for the freezer section. Dropping the temperature 10 degrees can increase energy usage by as much as 25 percent.
- ❖ If you have a separate freezer for long-term storage, it should be kept at 0 °F.
- ❖ Regularly defrost manual-defrost refrigerators and freezers; frost buildup increases the amount of energy needed to keep the motor running. Don't allow frost to build up more than one-fourth of an inch.
- ❖ To ensure proper cooling, don't crowd food items. Too many dishes obstruct air circulation.
- ❖ Replace paper wrappings on food items with aluminum or plastic wrap because paper is an insulator.
- ❖ Turn off the butter conditioner since it is a little heater.



- ❖ Make sure your refrigerator door seals are airtight. Test them by closing the door over a dollar bill. If you can pull the bill out easily, the latch may need adjustment or the gasket may need replacing.
- ❖ Cover liquids and wrap foods stored in the refrigerator. Uncovered foods release moisture and make the compressor work harder.
- ❖ Place the refrigerator out of direct sunlight and away from hot appliances.
- ❖ Move your refrigerator out from the wall and vacuum its condenser coils once a year unless you have a no-clean condenser model. Your refrigerator will use less energy with clean coils.
- ❖ Ensure good air circulation around the refrigerator by allowing at least 2 inches on all sides of the cabinet.
- ❖ Temperature-controlled chillers preserve foods a few degrees cooler than the rest of the main space.
- ❖ Automatic ice-makers and through-the-door dispensers increase energy use by 14 to 20 percent and increase the purchase price by \$75-\$250.
- ❖ Don't keep an old inefficient refrigerator running day and night in the garage for those few occasions when you need extra space. A 15-year-old refrigerator could cost \$100-\$150 per year in energy costs.

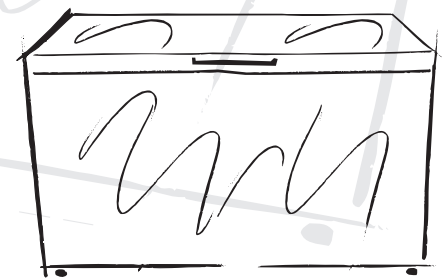
FREEZERS

Chest freezers feature temperature uniformity throughout the unit. They are 10 to 25 percent more efficient than uprights because their walls encase cooling coils that surround the thermal mass of food stacked in the storage compartment, and air doesn't spill when opened. They are not as convenient because the space is not differentiated, and you may have to hunt for items.

Self-defrost upright freezers usually have a circulating fan that keeps temperatures more evenly distributed than a manual upright even in the door area. Because of the way the door opens, excessive amounts

of cold air can escape. The flexible storage and defrost circuit seem to outweigh the small increase in energy costs.

Manual-defrost uprights do not circulate cold air as well as self-defrost uprights and, therefore, experience warmer than recommended temperatures on the door. Temperature stability is good, but they are not quite as efficient as chest models. They are quieter than self-defrost models since there is no circulating fan. They require more defrosting than chest models.



CONSUMER TIPS

- ❖ Locate freezers away from heat sources and direct sunlight.
- ❖ Allow at least 1-inch space on each side of the freezer to allow good air circulation.
- ❖ Freezers can be housed in an attached garage or basement. However, don't put a freezer in a space that frequently goes below 45 °F; the refrigerant will not work properly.
- ❖ Keep freezer temperature at 0 °F.
- ❖ Regularly defrost manual-defrost freezers to save energy.
- ❖ Check door seals for tight fit. Lubricate gaskets with petroleum jelly to keep them from cracking or drying out.
- ❖ Do not put hot foods directly in the freezer. Let them cool for a short time in the refrigerator.
- ❖ A full freezer will perform better than a nearly empty freezer.
- ❖ Mark items in the freezer for quick identification so that you don't have to keep the door open longer than necessary.

Sources:

U.S. Department of Energy
U.S. Environmental Protection Agency

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