

Commercial Washing Machines



Washing and drying clothing and soiled fabrics in large quantities can be energy intensive. Hotels, motels, laundromats, penitentiaries, military bases, athletic field houses, hospitals, and nursing homes are frequent users of commercial washing and drying equipment. Energy Star labeled washers and dryers save energy, as much as 37% less in many cases and use up to 50% less water than standard models. There are 59 manufacturers' models that have qualified for the [Energy Star Label](#). Knowing what choices are available will allow comparisons of energy and water consumption by manufacturers during the assessment of energy and water savings prior to purchase or the replacement of an older machine.

Energy and Water Energy Star Benchmarks



The [Energy Star Criteria](#) (as of 1/1/2011) for commercial washer qualifications includes meeting a **Minimum Energy Factor (MEF) of 2.0** and a maximum **Water Factor (WF) of 6.0**, both for top and front loading machines. The metrics and units of these two criteria benchmark factors include:

MEF = C/(M+E+D per wash cycle), where C is the capacity of the clothes washer in cubic feet (and must be greater than 1.6 ft³ to be considered for Energy Star) divided by the sum of the total energy consumption for the complete wash cycle which consists of M – the total machine electrical energy consumption (kwh), plus E – the hot water energy consumption (3,412 btus/kwh), plus D – the energy required to remove the remaining moisture in the washed clothes (final high speed spin cycle, kwh), **the higher the number the more efficient the machine.** The MEF has units of ft³/ kwh/cycle. The water use benchmark is:

WF = Q/C, where Q is the total weighted water consumption/ cycle and C is the total volume of the machine. The units are gallons/cycle/ft³, **the lower the number the more efficient the machine.**

The Federal Energy Management Program (FEMP) has [different criteria](#) than Energy Star. FEMP requires Federal purchases to look at the top 25% of the commercial clothes washer manufacturer's listing for MEF and WF ratings and make selections from this grouping. FEMP accepts commercial clothes washers with a MEF ≥ 1.26 and WF ≥ 9.5.

Specify Benchmarks For Your Next Washing Machine Purchase		
	Minimum Energy Factor MEF	Maximum Water Function -WF
Energy Star	2.0	6.0
Federal Energy Management Program	≥1.26	≤9.5

A range of energy and water factors can be inserted into an Energy Star spreadsheet on a [single machine basis](#) or [laundromat operation basis](#) to determine the life cycle cost, energy and water savings for different utility rates and manufacturer product lines. A replacement of an existing machine could be evaluated by diminishing the cost of a new Energy Star qualified machine by the repair cost of the existing machine (labor and repair parts) and setting the conventional unit cost at \$1. This will allow the evaluation of energy savings over the life cycle of the new machine diminished by the repairs of the older machine. This is a worthwhile exercise for replacement considerations.

The [cost of Energy Star washers](#) will exceed standard washers of lower efficiency; however, over the life cycle of the machine, savings will more than account for the additional cost especially is this true in higher productie work environment.

Best Practices - Clothes Washer Tips

Always use HE (high efficiency) detergent.

Front-loading clothes washers are designed to use high-efficiency detergent. Using regular detergent creates too much suds, which will affect the machine's washing and rinsing performance. Over time, it can lead to odors and mechanical problems.

Fill it up.

Clothes washers use about the same amount of energy regardless of the size of the load, so run full loads whenever possible.

Wash in cold water.

Water heating consumes about 90% of the energy it takes to operate a clothes washer. Unless you're dealing with oily stains, washing in cold water will generally do a good job of cleaning. Switching your temperature setting from hot to warm can cut energy use in half. Using the cold cycle reduces energy use even more.

Use a drying rack or hang clothes outside.

Where and when possible, air-drying clothes instead of using a dryer not only saves energy, but also helps them last longer.

Choose the sanitary cycle only when necessary.

This super hot cycle, available on some models, increases energy use significantly. Only use it when absolutely necessary.

Leave the door open after use.

Front-loading washers use airtight seals to prevent water from leaking while the machine is in use. When the machine is not in use, this seal can trap moisture in the machine and lead to mold. Leave the door ajar for an hour or two after use to allow moisture to evaporate. Make sure children do not climb into the machine while the door is open.

Rinse the washer every month.

Some manufacturers recommend rinsing the washer each month by running a normal cycle with one cup of bleach to help reduce the risk of mold or mildew buildup. Consult the product owner's manual before attempting.

Best Practices - Clothes Dryer Tips

ENERGY STAR does not label clothes dryers because there is little difference in energy use among models. Here are some ways to reduce energy consumption when using your clothes dryer:

Use the moisture sensor option.

Many new clothes dryers come designed with a moisture sensor, which automatically shuts off the machine when clothes are dry. Not only will this save energy, but it will also save wear and tear on your clothes caused by over-drying.

Clean the lint filter.

Cleaning the filter after every load will improve air circulation and increase the efficiency of the dryer. It's also an important safety measure.

Scrub the lint filter regularly if you use dryer sheets.

Dryer sheets can leave a film on the filter that reduces air flow and, over time, can affect the performance of the motor. Use a toothbrush to scrub it clean once a month.

Other resources:

www.energystar.gov

About This Fact Sheet

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