

# Facts About Dishwashers

Oregon State University Extension Service, June 1977, EC 982

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If you have a dishwasher, what do you consider to be its greatest advantage? If you do not have one, what are your reasons? What will a dishwasher really do? This may seem an obvious question, but many people expect the dishwasher to be a food steamer, a heater, garbage disposer, water softener, or burned food scraper. It is a dish, glass, pan, casserole, and flatware washer.

Dishwashers were once considered a luxury for a fortunate few. Today, about 17 million are in use in American homes, and market studies forecast that nearly 19 million will be sold during the next 5 years.

If you are one of those 19 million people who will be buying a dishwasher in the next few years, this publication should help you make a resource-wise decision about the purchase and/or use of this appliance.

Many people have found that one running of the dishwasher will do the day's dishes. This means dirty dishes, glasses, snack plates, pots and pans, and preparation utensils can be put into the dishwasher, out of sight—out of mind, until enough are accumulated for a full load. This reduces water consumption, since less water is used to

run a dishwasher once a day than would be needed when dishes are washed by hand throughout the day, often under constantly running water.

With the newer models, one portion of the dishwashing task that can be eliminated is the pre-rinse of dishes before loading the machine. The myth that you have to wash dishes before loading the dishwasher has long been dispelled. With continued mechanical improvements in machines and technological improvements in detergents, less and less preparation is needed, saving you extra work and using less water and power to get the job done. It has been estimated that time saved by the dishwasher over hand washing dishes equals 28 eight-hour days in one-year—that amounts to a 4 week vacation from this one homemaking chore. Wouldn't you rather be doing something besides washing dishes for 4 weeks a year?

History tells us the first patent for a mechanical dishwashing device was issued in 1850; it was almost a 100 years before it became a popular appliance in the market. Reasons for the delay were:

- lack of hot water and electricity in homes
- acceptable detergent wasn't developed until the mid-1930's
- automatic timing devices for varying cycles were not developed until the 1940's.

## **Hot water and electricity**

While we are all doing our best to conserve energy, let's not forget we must also guard our health and the health of the family. A relatively small volume of water is used to complete a cycle. Most dishwashers fill with two or three gallons of water during each cycle. Depending on the cycle you select for washing or rinsing, the dishwasher fills and drains four or five times using from 12 to 16 gallons of water during the complete cycle time. This amount of water is continually recirculated through the spray wash arms and filter system of the appliance to clean the dishes. *Many people use more than 15 gallons of water in hand washing dishes for just one meal.*

Good dishwasher loading practices will assure proper circulation of spray for effective cleaning. Loading instructions for your particular model are found in its use-and-care

manual. It takes just as much water to run the washer empty as full. Improper loading and overloading can cause poor cleaning and dishes may have to be rewashed—using more human energy as well as electrical energy and water.

A water temperature of 140° to 160° F is generally recommended, and under normal circumstances should be the general home rule. If your hot water heater is set below this temperature, make sure the dishwasher has a heating element to raise the water temperature.

Proper water temperature is critical to dissolve detergent, remove food soils, and dry dishes properly. Water of this temperature also helps sanitize dishes. Since water temperatures for dishwasher cleaning far exceed temperatures your hands could stand, all items washed in the dishwasher are exposed to more intense cleaning action in water, detergent, rinsing, and drying.

## The right detergent

Specific ingredients and manufacturing processes for each brand of detergent are different. Both the dishwasher instruction booklet and the detergent package provide guidelines for proper usage of a detergent.

The dishwashing detergent you select must:

- Produce essentially no foam or suds itself despite the vigorous water action.
- Suppress foam from food soils (especially proteins such as egg white) to prevent cushioning of the water action.
- Sequester water hardness minerals (tie them up in solution so they will not form insoluble deposits on items).
- Wet and loosen soils so that they can be removed by the water action.
- Make soluble or emulsify oily or greasy soils.

- Hold soils in the wash water so they can be readily rinsed away.
- Prepare the surface of dishes, glassware, and flatware so that water will sheet off instead of forming drops that leave spots when drying.
- Protect china patterns and metals from the corrosive effects of water alone.

*Remember:* Never use any product in a dishwasher other than what the manufacturer recommends for dishwasher use, such as dishwasher detergent, rinse aid, or water conditioner. Even one use of a product made for hand dishwashing, laundry, or general household cleaning could damage the dishwashing mechanism. Likewise, dishwasher detergents are not recommended for other washing jobs because of their alkaline content.

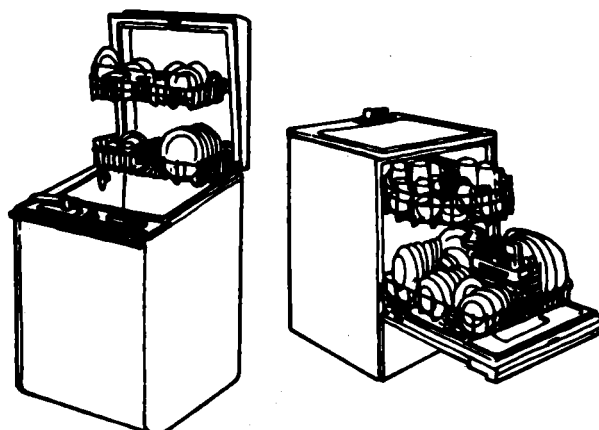
## Timing devices

Timing devices release detergent into the wash cycle. As mentioned before, specific detergents are made for dishwasher use. The operator must remember not to overload the detergent dispenser. An excess of detergent can prevent the lid of the dispenser from closing tightly. If the lid is not secured, moisture can get into the dispenser. If this happens, the detergent may dissolve prematurely in the cycle—or cake in the dispenser and fail to dissolve at the proper time.

The water release and drain during the cycle is also timed. To allow proper water circulation during the cycle, contents should be properly loaded. For appropriate drainage, the operator should occasionally check the drain to be sure it is not clogged. Food particles may build up and inhibit the drain from functioning with the time allowed for this portion of the cycle.

To cut energy costs, if your dishwasher has a short cycle, use this instead of the regular full-length cycle. This is most satisfactory if dishes are not heavily soiled with dried-on foods. Be sure to check your model's use-and-care booklet if you don't know which is its shortest cycle.

Another energy saver is to eliminate the drying portion of the cycle. Be sure the water temperature is at the specified 140° to 160° F. When the cycle finishes the rinse, open the door or shut off the cycle and the dishes will dry



from the residual heat built up inside. The drying portion is the longest time in automatic dishwashing and with the heating element on, consumes more power than other portions of the cycle. Some models have an air cycle that does not require additional heat for drying. The circulating air accelerates drying without requiring extra energy. Before buying a new dishwasher you might want to check for this energy saving feature.

When sickness exists in the household, it is wise not to eliminate this drying portion. The combination of hot water, a good detergent, and the heat of the drying cycle will help alleviate transfer of germs from person to person through insufficiently clean dishes.

With an eye to energy saving, don't use the dishwasher as a plate warmer. This is an extravagant misuse of our scarce energy supply.