

“Intelligent” dishwashers more efficient

Dear Jim: Our dishwasher is about 10 years old and seems to get louder each year. I also have to pre-rinse the dishes first or they don't get clean. Are the new “intelligent” dishwashers quieter and more efficient? - Paula N.

Dear Paula: The use of an old water-guzzling dishwasher can have a significant impact on your utility bills, both power and water. Energy is used to power your water heater for the wash water and to operate the pumps and controls. Water is consumed for the actual washing process.

In contrast, some of the new dishwashers use less than five gallons of water for a standard wash cycle. They have built-in water heating coils so you do not have to keep your water heater temperature set excessively high for clean dishes. In the newer dishwashers, using different types of motors pumps and insulation improve the overall efficiency.

The newest dishwashers are not only more energy efficient, they are also quieter. Some manufacturers' engineers told me their best models are more than 55 percent quieter than their best ones made just 10 years ago. Some even include a status light so you can tell the dishwasher is running. The new ones are quiet, but adding a status light may be a bit of marketing hype.

The cleaning process is also improved with some models having five spraying levels to reach every dish. The placement and design of the spray heads provide additional room for larger loads. A cleaning standard to which many new dishwashers are tested requires 10 place settings covered with egg yolk, oatmeal, tomato sauce, etc. that is dried on for two hours to be thoroughly cleaned without pre-rinsing.

“Intelligent” dishwashers are ones that sense how dirty the dishes are and automatically run the proper number of wash and rinse cycles at the proper temperature to clean them. If left up to the homeowners, dishwashers usually get set to a maximum cleaning setting, which is overkill and needlessly wastes

water and energy. The controls on intelligent dishwashers also allow you to override the automatic setting and select any cycle you wish.

Most “intelligent” dishwashers sense the turbidity (cloudiness) of the wash water of the first and each successive cycle to determine when the dishes are clean and no more cycles are needed. Some designs shine a beam of light through the rinse water to determine the turbidity.

Another method uses a very sensitive pressure switch in the wash and rinse water circulation system. When the water is still dirty, tiny food particles build up on the filter screen. This buildup increases the pressure drop across the filter indicating particles are still in the water. An electronic “brain” starts a brief filter flush cycle to clean it and then the dishwasher continues to run until the screen indicates no more particles.

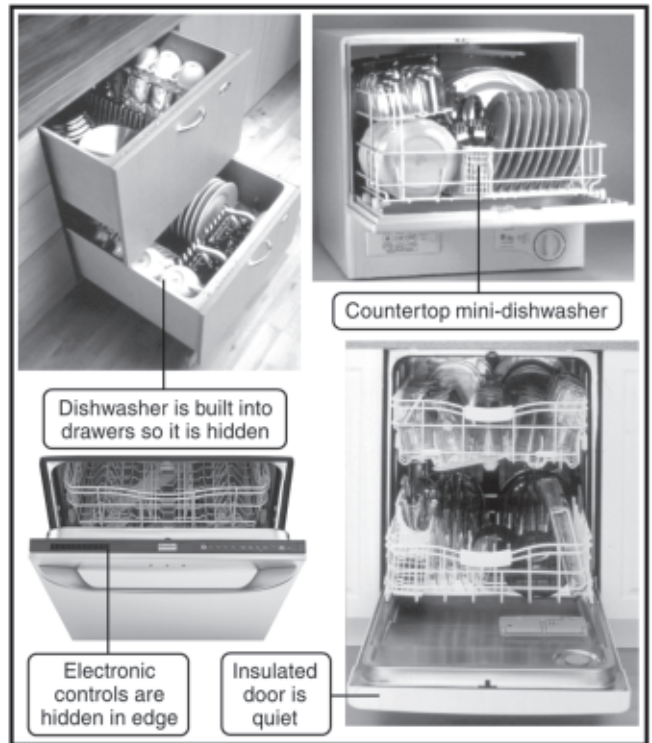
Energy efficiency of dishwashers is primarily a function of the hot water use, how long the dishwasher runs, and the level of insulation. Some internal water heating elements warm the water to as high as 170 degrees for faster cleaning. Some of the sound insulation is also effective for keeping the water warmer. Letting an intelligent dishwasher automatically select the best wash cycle is usually the most efficient option.

The most energy efficient dishwasher models use a two-pump design with a separate smaller wash pump and a drain pump. By using two small pumps, the depth of the water reservoir can be reduced so less water is needed. One-pump designs reverse the pump rotation to switch from washing to draining. These are less expensive to make, but the larger pump requires a larger reservoir.

Another efficient option for small families is mini dishwashers (called

dishdrawers) that mount one above another in any cabinet under the countertop. They look like deep drawers and use only 2.4 gallons of water per cycle. Use just one for small loads or two together for medium loads. Another option is to leave the clean dishes in one and place the dirty dishes in the other. When the dirty one is full, run that drawer and start filling the other one with dirty dishes.

The newer dishwashers also have many convenient features. A delay-start feature will run the dishwasher while you sleep. A built-in water softener can reduce spots. High-temperature antibacterial cycles are good for families with children. If your kitchen is hot and humid during summer, select a condensing model that does not circulate the hot drying air into your kitchen.



New dishwashers are quiet, save energy, water

Write James Dullely, Rural Montana, 6906 Royalgreen Dr., Cincinnati, OH 45244 for (instantly download - www.dullely.com) Utility Bills Update No. 578 - buyer's guide of the 16 most efficient, quiet dishwasher manufacturers listing water usage, number of pumps, wash cycles, convenient features, prices, and efficiency tips. Please include \$3.00 and a business-size SASE.