MyHomeWorks

Dishwasher

Equipment Description

Most dishwashers have pullout racks to hold the articles to be washed. The racks slide on rails or casters mounted on the internal walls of the washer. Spray nozzles are placed on a rotating arm mounted and attached to a telescopic stem connected to a drive motor. The arms may be stationary or may move up and down during the wash cycle to allow water to contact each tray in turn. A heating element mounted on the lower portion of the rack housing provides heat during the drying cycle, and many units are equipped with water heaters to increase the temperature of the wash water. Detergent is released from a storage compartment in the door during the wash cycle. Operating controls are accessible usually from instrument panels mounted at the upper part of the front panel above the door.

Loss Scenario

The most common issue with older units is deterioration of the bottom seal which results in leakage. Cost to replace a bottom seal may approach costs to replace the entire dishwasher.

Many current style dishwashers have controls embedded in a circuit board. When these controls fail, they are not repairable but must be replaced as a unit.

Automatic valves are mounted on the lower surface within the dishwasher housing. They control the mix of hot and cold water in response to input from the controls based on operating cycle settings. The failure of a water supply valve would render the unit inoperable during the wash cycle.

Motor breakdown can make the dishwasher inoperable. Replacing a broken motor usually requires a complete removal of the dishwasher from its location.

Size and Carbon Footprint

There is a potentially large impact on energy consumption for units equipped with the ability to select the type of cycle, including a choice to use the heating cycle. A typical dishwasher (1200 watts) may use 30 kilowatt-hours (kWh) of electricity per year (based on 30 loads per month), while contributing to the production of about 46 pounds of carbon dioxide (CO_2) to the atmosphere. This excludes energy consumption and CO_2 production from the home water heater that heats the water used by the dishwasher to clean the dishes.

Maintenance Tips

- Always disconnect the dishwasher from the wall electrical outlet before performing any maintenance.
- Make sure all water control valves are closed before attempting to replace components in the piping system.

Loss Prevention Tips

- The filter at the water discharge in the tub basin must be kept clean to prevent water from backing up.
- Make sure the heating element is not damaged by cutlery protruding from the basket.