

Dehumidifiers

*Fred M. Crawford, Department of Agricultural Engineering
College of Agriculture*

Dehumidifiers reduce the moisture in the air. They provide comfort for people and reduce or eliminate deterioration of equipment due to rust, rot, mold, and mildew.

The most commonly used dehumidifiers consist of a refrigeration unit with an exposed cold coil, which condenses moisture from air as it is drawn over the coil by a fan. See Figure 1.

As moisture condenses it drips in a pan or flows to a drain. If a drip pan is used it must be emptied regularly. Home dehumidifiers will remove from five to 15 quarts of water from the air daily.

Selection

Selecting the proper size dehumidifier can't be done with great exactness. Smaller units may take care of moisture problems in many homes. But for severe moisture problems, a larger unit, or more than one unit, may be required.

Power required for a home dehumidifier will be 200 to 600 watts on a 120-volt single phase circuit. Most units are operated by one-eighth to one-third horsepower electric motors.

Physical size of dehumidifiers for homes vary as follows: Width, 12-15 inches; Depth, 10-21 inches; Height, 12-24 inches; weight, 45-75 pounds.

Operation

Unless a circuit is already loaded, a dehumidifier can be connected into any normal household receptacle.

Dehumidifiers are usually controlled by a humidistat to start the unit as the humidity rises and to stop it when the humidity has been lowered. Controls usually provide settings within a range of 20 to 80 percent relative humidity.

Some dehumidifiers have an additional control to stop the unit when the drip pan is full. This prevents spills. A unit with a pan that is easily removed for emptying is desirable.

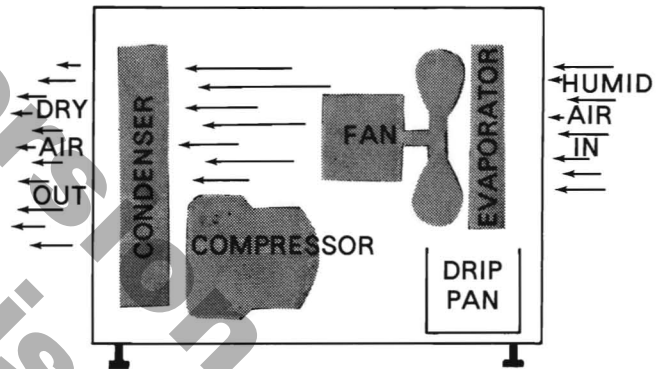


Figure 1. Typical dehumidifier operation.

Costs of Operation

Smaller dehumidifiers use about seven kilowatt hours when operated continuously for 24 hours. If your electric rate is about three cents per kilowatt hour, the cost is 21 cents per day. Larger units may use 12 kilowatts per day for continuous operation.

Air Conditioners Dehumidify

Air conditioners, window type and central units, dehumidify the air in the space being cooled. In many homes with central air conditioning, the humidity in the entire home is reduced such that a special dehumidifier is not necessary.

