Dehumidifier
Fact Sheet

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Warm and moisture-laden air can be a source of discomfort and concern for homeowners. Some of the problems associated with excess moisture in the air include: mildew on stored luggage, books, clothing, or furniture; allergies caused by mildew spores; a musty, moldy odor; rust on workshop tools and metal accessories; sticky drawers and doors; "sweating" on cold water pipes, and wetness on insulation. For most households, moisture and mold problems occur in the basement, and more so in the summer than in winter.

This fact sheet will help you assess your need to dehumidify, and it will also provide tips on the efficient use of dehumidifiers.

Assessing the situation

A large percentage of basement leaks and moisture problems can be solved by providing adequate drainage around the basement wall perimeter. Saturated soil around the basement wall can contribute to large amounts of water vapor in the living space. If water leaks or seeps through basement walls, you should repair the walls or improve the drainage around the house, and/or install a sump pump.

The soil should slope away from the house. Down spouts can be added to gutters to direct water at least six feet away from the house. Dehumidifiers are not an effective solution to a basement seepage problem.

What size dehumidifier should you buy?

Dehumidifier capacity is measured using the number of pints of water it can discharge in 24 hours. The size needed depends on the size of the area to be conditioned and the amount of moisture present in the air. The most common sizes are 25-, 30-, and 40-pint models. Visit www.energystar.gov for more detailed sizing information.

An inexpensive digital humidity gauge can be purchased at most local hardware stores, allowing you to accurately monitor indoor relative humidity. An indoor relative humidity of less than 65% is recommended. In the summer, outdoor humidity generally runs between 60% and 80%.

On all units, a dial near the top turns the dehumidifier on and off and adjusts the humidistat, a device that senses humidity, similar to a thermostat that senses temperature. With the dial turned all the way up, the machine will run continuously. It is recommended to run the dehumidifier at the continuous setting only during the initial startup to drop indoor humidity to an acceptable level. Once the desired level is achieved, it is recommended to set the dial as low as possible.

Cost of operation

Most people are surprised to learn that a dehumidifier uses as much electricity as a standard refrigerator. The following chart shows seasonal cost of operation based on an estimated rate of 9.1 cents per kilowatt-hour.

Cost of Operation Per Season				
Dehumidifier Size	**600 hrs**	**1,000 hrs**	**1,400 hrs**	**1,800 hrs**
25-pint/5 amps 600 watts	$32.76	$54.60	$76.44	$98.28
30-pint/6 amps 720 watts	$39.31	$65.52	$91.73	$117.94
40-pint/7.5 amps 900 watts	$49.14	$81.90	$114.66	$147.42

Energy-saving tips

- Dehumidifiers are only effective at reducing humidity when the humidity is above 50%, which usually is in the summer. (Basement humidity runs between 60% and 80% in the summer.) If your dehumidifier is operating where the temperature is less than 65°F, check it occasionally to see if frost is forming on the evaporator coils. If frost has formed, turn the unit off until the frost melts and until the room is warmer. Some units have an automatic control to prevent frost build-up under low temperature or humidity conditions.

- Clean dehumidifier coils annually. Air passing through the dehumidifier coils may carry quantities of dust, lint, and fungus spores. It works best to clean coils when the matter is soft and wet and can be removed with a soft brush. If you must wet the coils, use a spray bottle with water. Do not permit water to enter the electrical components. Do not spray the coil with a hose.

- Allow adequate circulation around the dehumidifier. Air needs to freely circulate around and through the dehumidifier for optimum operation.

- Annually, squeeze a dash or two of oil on the fan motor bearings. This is required only on certain models.

- Keep all windows and doors closed when using the dehumidifier. A common misconception is to open windows and doors to ventilate damp areas. When warm, humid outdoor air is introduced into a cooler basement or crawl space, the cooler air cannot hold as much moisture, resulting in condensation on walls, floors and pipes. This puts added strain on the dehumidifier. The only time to open windows is when the outside humidity and temperature is low.

- Wrap pipe insulation around cold water pipes to eliminate sweating.

- Cover dirt floors in crawl spaces or basements with plastic.

- Check your owner's guide for additional and specific recommendations.

- During winter, avoid using a dehumidifier to remove condensation and frost from windows.

Why buy an ENERGY STAR® labeled dehumidifier?

- Earning the ENERGY STAR® label means a product meets strict energy efficiency guidelines set by the U.S. Environmental Protection Agency and the Department of Energy.

- The annual energy saved by ENERGY STAR® certified dehumidifiers could power your ENERGY STAR® certified refrigerator for 3 months!

- ENERGY STAR® qualified models have more efficient refrigeration coils, compressors and fans than conventional models, which means they use less energy to eliminate moisture.

- An ENERGY STAR® qualified model removes the same amount of moisture as a similar sized standard unit, but uses 15% less energy.

To learn more about our energy conservation programs, visit **www.mnpower.com/powerofone**