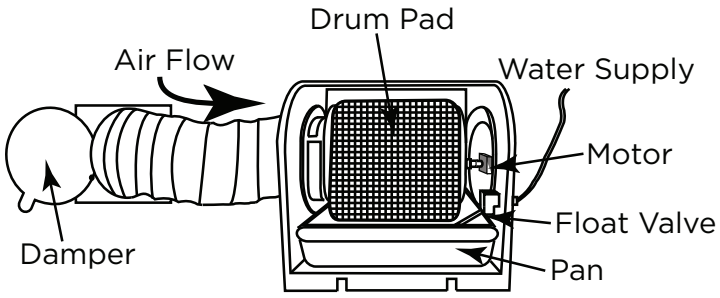
The Central Humidifier

A Cold Climate Balancing Act

Indoor humidity levels can get uncomfortably low during cold winter months. Dry air causes:

- dry skin, lips, throat and nose
- shrinkage and cracking of woodwork, such as moldings, door frames and hardwood floors
- damage to musical instruments, such as pianos, guitars and violins



Revolving Drum Humidifier

A central humidifier automatically adds moisture to the air.

What Is Humidity?

Humidity refers to the amount of moisture in the air. The measure of humidity is called "relative humidity," and designates the amount of moisture in the air relative to the maximum amount possible before the air becomes saturated. This maximum moisture count is also relative to air temperature – the hotter the air the more moisture it can support. If the relative humidity in your home is 50%, and you decrease the indoor air temperature, the relative humidity increases.

Ideal Relative Humidity in Your Home

Most people require a humidity level between 45% and 55% for general comfort. For woodwork and furniture, 40% - 45% is ideal. Unfortunately, these levels cannot be maintained throughout the winter without causing problems.

The temperature in a home is not uniform. For example, some surfaces in your home, such as windows, doors, walls and ceilings are colder than the average indoor air temperature. Your average indoor relative humidity may be 50%, but the relative humidity immediately next to a window pane may be over 100%. The result is condensation, which may even freeze, creating frost. Condensation can lead to mold, mildew and musty smells.

Believe it or not, the ideal relative humidity inside your home in the middle of the winter depends on the outdoor temperature! While every house is different, the chart shows the ideal indoor relative humidity.

If your house is tightly sealed, the humidity you generate in the home from cooking, showers and even breathing may be sufficient.

Types of Humidifiers

The following are the two most common humidifiers:

Drum type: a drum type has a rotating sponge surface that picks up water from a tray as it turns. Air from the central heating system blows through the sponge, evaporating water into the air stream. An automatic humidistat regulates the relative humidity. The drum type requires a lot of care and maintenance.

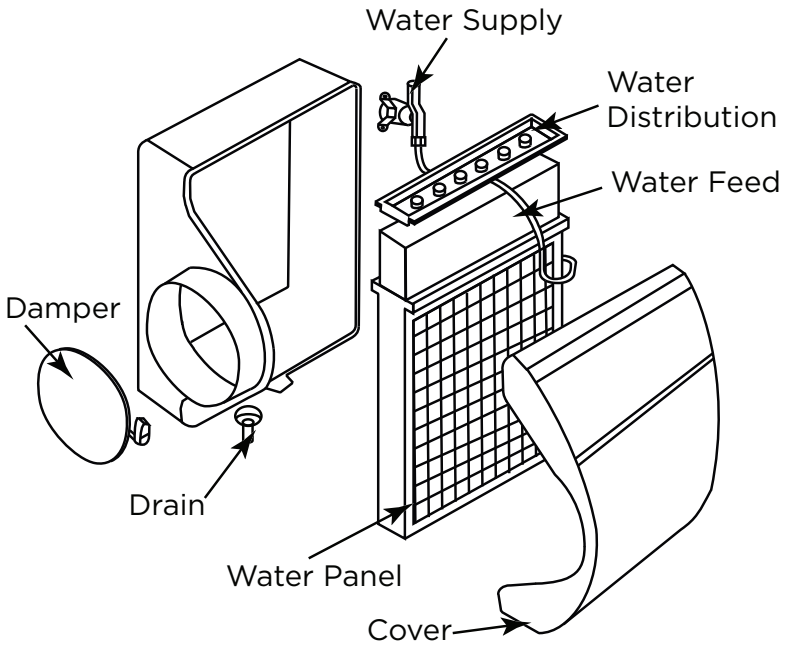
Flow-through or "trickle" humidifier: considered a much higher quality unit than the drum type, trickle humidifiers allow fresh water to trickle into the top of an aluminum panel. Air blows through the panel and water evaporates into the air stream. Excess water exits the panel into a drain tube.

Operation

First check the temperature outside. Then set the humidistat according to the chart on the humidistat. Most people set an average level for the winter, usually about 30%, to avoid resetting it every day. More advanced systems have an outdoor thermometer that automatically adjusts the relative humidity to the ideal level inside.

Maintaining your Humidifier

Cleaning drum type: remove and clean the drum and tray once a month, and replace the drum sponge every year. In some cases you cannot remove the tray without removing the float assembly first. Make sure you shut off the water supply! Check water level: verify that the sponge makes contact with the water in the tray. If not, the level needs adjustment. Check float assembly for scale: scale on the float valve could cause a leakage problem. Clean or replace as necessary.



Flow-through Humidifier

Cleaning flow-through type: simply replace the water panel once per year.

Look for leaks in both types: evidence of rust and scale are sure indicators of leaks. Look inside the humidifier. Check the water supply line. A common leakage point is at the shut-off valve.

In the summer: turn off the water supply and drain the tray (drum type). If you have air conditioning, block the flow of air through the humidifier during the summer. You should find a sheet metal baffle or a knob directly on the humidifier to block the air flow.