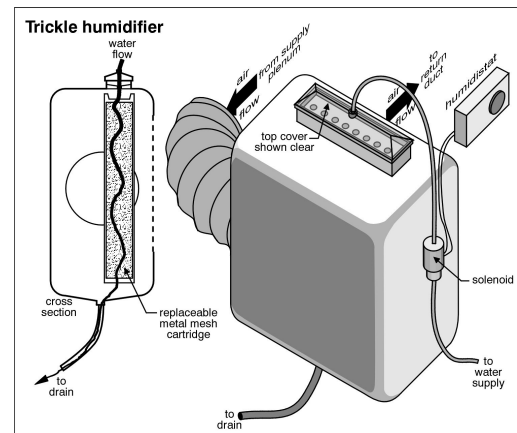
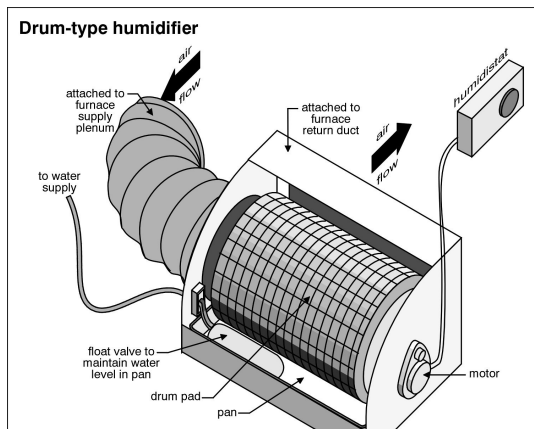




GLOBAL PROPERTY INSPECTIONS™
TECHNICAL BULLETINS
February 1, 2008

TOPIC: Humidifiers

During the winter months for areas of Canada that receive colder temperatures, (4 degrees Celsius and colder accompanied by snow), HVAC systems can produce dry, warm air that causes static electricity, and damage to furniture and wood fixtures like cabinets and floors. It can cause dry throats and an increase in allergies for people who suffer with those conditions. To reduce the problems and in some cases alleviate them, a power humidifier can be installed on HVAC air handling systems to produce moisture in the air stream of the system. Typically, the colder the temperature, the less moisture is needed. Too much moisture can cause condensation problems with windows and doors inside the house. There are two basic types of power humidifiers that can be installed in the plenum area of the air handling unit for an HVAC system, Drum-type and Trickle humidifiers.



Water is supplied to the units and controlled by a humidistat and solenoid. With a drum-type humidifier, water enters into the bottom of the humidifier cabinet. A drum that is made of a water-absorptive type of material, typically foam rubber, slowly turns around via a motor and collects water. As air passes from the return supply duct, to the humidifier, it passes over the drum producing moisture-laden air which then enters the supply air of the main plenum and is dispersed throughout the residence via the supply ductwork system. With a trickle type humidifier, water enters in to the top the unit and passes over and through a mesh screen. Excess water drains out the bottom of the unit typically to a floor drain, condensate pump or sump pit and pump, which ever the case may be. The travel of air flow is the same as the drum-type system.

Inspecting Humidifiers

With humidifiers disassembly is required to inspect the condition of the drums or mesh screens. Over time, depending on hard water content, the components can become clogged with calcium deposits. It is recommended to clean the elements once a year and replace them every two years. Water flow through the drain tube systems is one way to verify at least that water is passing through the system. The furnace has to be in operation in order for that to occur. Both units typically are supplied with low-voltage electricity to control the solenoids and motors for drum-type humidifiers.

Too Much Moisture or Not Enough?

As stated previously a lack of humidity in the air can cause dry conditions and uncomfortable air within the home. Too much moisture in the air can cause excessive condensation accumulation. In colder climates excessive condensation will be present on windows and doors primarily because of temperature differentials between warm temperatures inside and cold temperatures outside. Relative humidity should be between 25 to 30% inside the home. When temperatures are between 1 degree Celsius (freezing) outside to 4 degrees Celsius humidistat settings should be set at around 30%. At -17 to 1 degree(s) Celsius humidistat settings should be 10 to 30% depending upon weather conditions.

This technical bulletin has been drafted to be general in nature and not technically exhaustive.