

HEAT

What is a Good / Proper Indoor Humidity

According to most reliable sources a 35% to 45% Relative Humidity level in the home is ideal. It proves to be the most comfortable and the healthiest. Lower levels in the winter which can be affected by gas or resistance heating can cause problems like dry itchy skin, and static electricity. The right humidity just makes the temperature feel better, and helps with things like window sweating, wood floors and furniture not warping and believe it or not even helps with pest control. Relative humidity below 40% helps control dust mites, silverfish, and even helps inhibit the development of most bug's eggs. Humidity below 35% can be very uncomfortable on the skin. It can also cause a dry throat, cracked lips and nose bleeds. As far as static electricity goes if you are a 10 year old boy and like zapping your sister on the ear-lobe it's all great fun. If you are an adult it's not fun getting zapped every time you touch something. So what do we do?

Measure the Rh with a device designed to do so. Older homes may exhibit more of a problem than newer "tighter" well insulated homes. The humidity in the "leaky" house is probably closer to the outdoor humidity and this situation will need more input to correct. You are probably looking at adding a humidifier to the heating system to alleviate this issue.

There are several types of humidifiers.

First let's look at evaporative panel humidifiers.

Evaporative panel units have a panel that water flows over and air is blown across that panel to introduce moisture into the air usually in

the supply air duct downstream from the indoor unit. Proper sizing is important to make sure that the capacity of the humidifier is capable of supplying enough gallons per day to alleviate the problem and achieve the 35% to 45% target. A trick to help here is if just a small amount is needed then hook the humidifiers water supply to the cold water pipe and if much more is needed add the supply pipe to the hot water supply in the home. There are two kinds of these panel units out there, one is the By-pass style which has an air pipe hooked to the supply side of the heating system and one to the return side. The heating unit supplies the air across the water panel. The other is the Fan Powered unit which directly attaches to the supply plenum via a cut-out or if necessary can be attached to the side of the "A" Coil enclosure. An internal fan draws air from a bottom louver slot blows it through the water panel and out the top louver slot.

If a lot more steam is needed and or you have mounting space issues you can use a Steam Generating Humidifier. There are two kinds of these also. They can be remotely mounted and then a steam pipe ran to a hole in the supply plenum. These generate steam in two manners. One unit has an element that looks like a hot water element and works in the same fashion. It is necessary to provide very clean water to this style unit as calcium and lime can build up quickly and compromise the effectiveness of this unit. So the manufacturers of these style units recommend specific reverse osmosis water filters to protect these units. This unit will have to be serviced annually, changing the water filters and cleaning the element preferably before use.

The second type is the canister style which uses a replaceable canister with internal electrodes that generate the steam. The water

mineral quality in this unit isn't critical, and as a matter of fact it works better if the water has dissolved minerals in it. However this canister MUST be replaced annually as a whole so place the humidifier where this can be easily accomplished.

Be sure to go online and check out the different manufacturers apps that help you calculate how many gallons per day is required for your job and read and familiarize yourself with the different styles of units and mounting solutions. Fixing this issue in your customers home could get you rave reviews.