

US RESIDENTIAL HUMIDIFIER & DEHUMIDIFIER MARKET



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RESEARCH SCOPE

Maintaining optimum humidity level is an important aspect in residential indoor air quality. Poor quality of indoor air has been associated with asthma, allergies, eye irritation, headaches and respiratory infections. The ideal relative humidity indoors is about 40-50%. During winters, the relative humidity is lower, generally between 30-40%. This report provides an overview of portable and whole-house humidifiers and dehumidifiers in the US.

- ❑ Humidifiers- Equipment that increases the humidity (moisture) level in a room or entire house. Humidification is necessary in colder climate to add moisture to the air in dry weather.
- ❑ Dehumidifiers- Equipment that reduces the level of humidity in the air by removing the water vapor from the air. Dehumidifiers are used for health or comfort reasons and also in tight areas like crawl spaces, attic and basement to remove water, prevent mold and damp, musty odors.

The study does not cover vaporizers, air cleansers, air purifiers, replacement filters or other replacement accessories and has solely focused on portable and whole-house humidifiers & dehumidifiers in the residential humidity control market in US.

The report provides an overview of the Residential Humidifier & Dehumidifier equipment Market in United States. This report captures the following information:

- ❑ Market Size, Growth Rate ,Forecast 2011-2020
- ❑ Market Share Percentages
- ❑ Growth Drivers & Challenges
- ❑ Market Analysis: Residential Humidifiers & Residential Dehumidifiers
- ❑ Supplier Landscape
- ❑ Latest Developments & Market Trends

TERMS & DEFINITIONS

- ❑ **Relative Humidity (RH)** - Measure of amount of moisture in the air relative to the total amount of moisture the air can hold.
- ❑ **Portable humidifier**- Small air quality device designed to humidify a certain square footage area or room. Their moisture coverage area is limited to the recommended area the unit is designed for. They are of two types: warm mist & cool mist.
- ❑ **Warm mist humidifier**
 - ❑ Steam Humidifier- Boils water and releases steam into the room.
- ❑ **Cool mist humidifier**
 - ❑ Impeller humidifier – Rotating disc that throws water on a diffuser and breaks water into fine droplets that float in the air. These droplets exit as a cool fog mist.
 - ❑ Wick/Evaporative humidifier –Most common portable humidifier and partially self regulating. A wick is a filter that absorbs water from a reservoir and provides larger surface area for the water to evaporate. A fan placed adjacent to the wick blows air to aid evaporation.
- ❑ **Ultrasonic humidifier** –They use metal diaphragm vibrating at very high frequency breaks down water into fine droplets that exit as fog. This type of humidifier is silent.
- ❑ **Humidistat** - It is a device used to measure and control relative humidity.
- ❑ **Hygrometer** - It is a device used to measure the humidity level of a particular area.
- ❑ **Console humidifier** - Humidifier is encased in cabinet and has a much wider whole-house coverage area. The humidification system is mostly evaporative and is only available in cool mist.
- ❑ **Furnace humidifier** - Humidifier that connect to the home's HVAC system (heating, ventilation, and air conditioning) to provide humidity to the entire house.
 - ❑ Bypass - Connect to a bypass off the supply or return air flow in order to create pressure that draws the airflow into the humidifier and through a moisturized pad leading to an even humidity distribution in the home.
 - ❑ Fan Powered - Has a built-in fan to draw airflow into humidifier and across a wet pad where it picks up moisture
 - ❑ Steam - Evaporate water and inject the resulting steam into the air. Their main advantage is that they are able to operate independently from the furnace. These work well in larger homes in dry climates with mild winters.
 - ❑ Drum Type Flow - Through Humidifiers are 100% water efficient, using only 0.6 gallons of water per hour, they operate independent of the heating cycle, do not have replacement pads or filters and consume low energy.

TERMS & DEFINITIONS

- ❑ **Refrigerant dehumidifier** – The most common type and works by drawing moist air over a refrigerated coil with a small fan. The air condenses on the coils and is collected in a dripping bucket. More economical and effective at high temperatures and high moisture levels where the relative humidity is higher than 45%.
- ❑ **Desiccant dehumidifier** - A desiccant is a special humidity-absorbing material that is exposed to the air being conditioned. It moves along a belt. This type is suitable for places with high humidity at low temperatures.
- ❑ **Electronic dehumidifier** - Uses a Peltier heat pump to generate a cool surface for condensing the water vapour from the air. It has no moving parts and is quieter, but it has low energy efficiency and is used for smaller humidifiers.

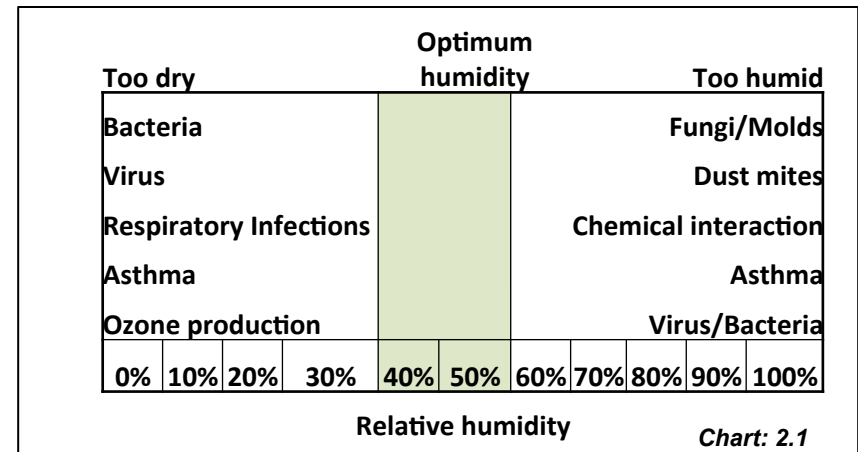
Industry Associations

- ❑ **Air-Conditioning, Heating, and Refrigeration Institute (AHRI)** is a trade association of HVAC product manufacturers. AHRI collects shipments of whole-house humidifiers on an annual basis.
- ❑ The **Association of Home Appliance Manufacturers (AHAM)** is a trade association of home appliance manufacturers.
- ❑ The United States **Environmental Protection Agency (EPA)** is an agency of the U.S. federal government which was created for the purpose of protecting human health and the environment. EPA provides environmental information about many topics, including indoor air quality and energy.
- ❑ In 1992, the EPA launched the **Energy Star** program, a voluntary program that fosters energy efficiency.
- ❑ United States **Consumer Product Safety Commission (CPSC)** is an independent agency that regulates the sale and manufacture of more than 15,000 different consumer products in US.
- ❑ **ASHRAE** (Formerly the **American Society of Heating, Refrigerating and Air Conditioning Engineers**), founded in 1894, is a building technology society that focuses on building systems, energy efficiency, indoor air quality, refrigeration and sustainability within the industry.

MARKET LANDSCAPE

MARKET DYNAMICS

- ❑ Environmental Protection Agency (EPA) has listed the quality of indoor air as top environmental health threat.
- ❑ The concept of healthy homes, keeping living space healthier, overall wellness, comfort from a temperature stand point and cost saving and energy efficiency are going to drive the humidity control equipment market.
- ❑ Homeowners are now becoming aware of the problems associated with inadequate indoor humidity levels, stimulating the growth of the US residential humidity control markets.
- ❑ The residential humidity control market is small, as compared to the HVAC market. High levels of competition and low degree of technical change is seen in this market.
- ❑ The humidifier segment is much bigger than the dehumidifier segment and growing at a faster overall growth rate.
- ❑ The market for humidity control equipment is growing at a steady rate and is highly dependent on the weather.



Optimum humidity level ensures low probability of micro-organisms growth

- ❑ The growth of whole-house equipment is dependent on the growth in housing sector and information awareness among the HVAC contractors. Proper awareness in the distribution channels about the benefits of humidity control equipment will propagate sales of whole-house equipment.
- ❑ There has been increased efforts by various organizations on information availability on humidity control to the consumers.

CATEGORY OVERVIEW- HUMIDIFIER & DEHUMIDIFIER

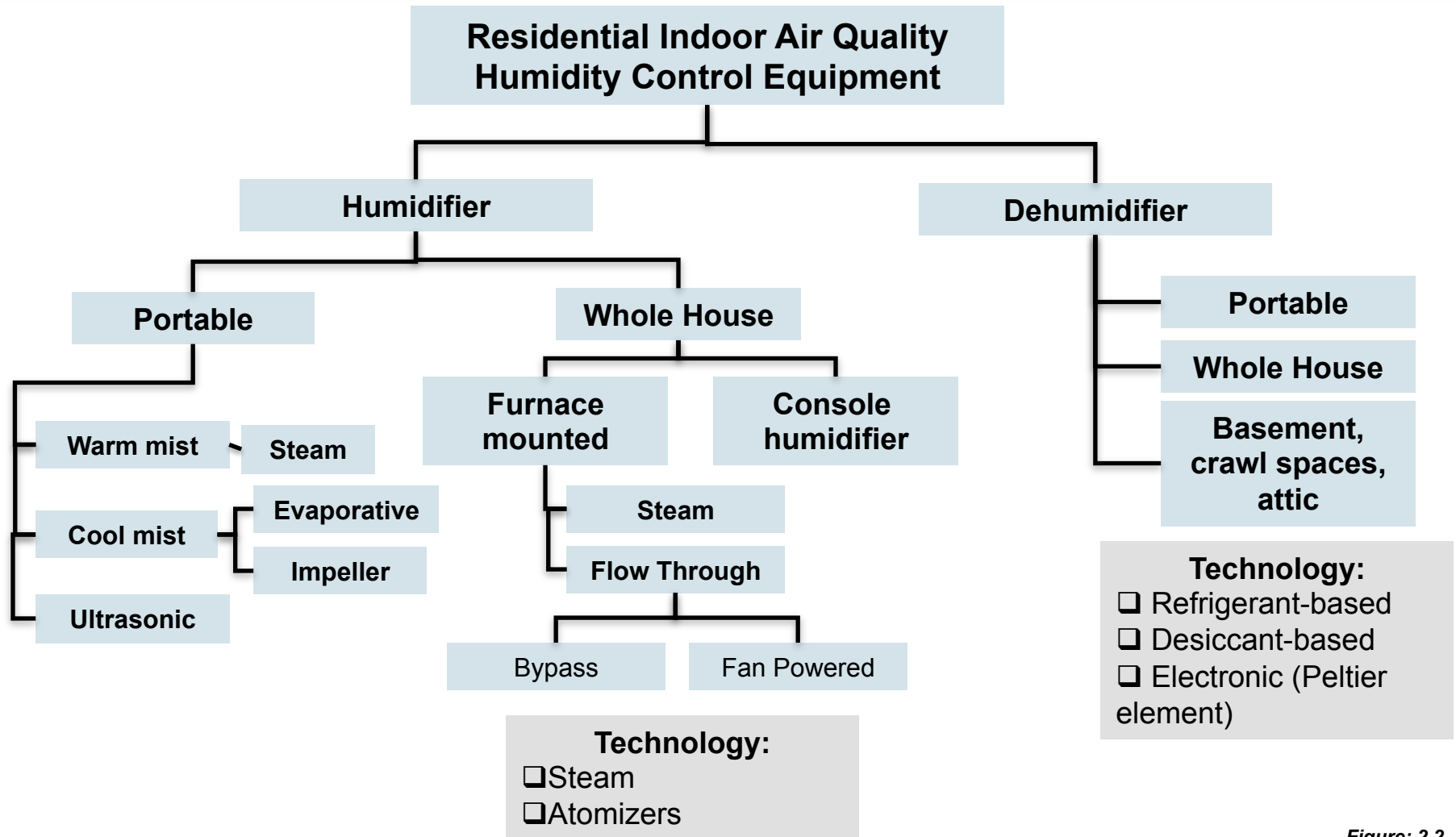


Figure: 2.2

*The above categorization is based on humidifiers & dehumidifiers only; we have not focused on other air quality products like air cleansers, purifiers, vaporizers, etc.