

BASE Buildings Test Space HVAC Characteristics: Humidification System Types

Humidification System Types	Number of Test Space Air Handlers ¹
Heated Pan	1
Steam Type, Enclosed Steam Grid	2
Steam Type, Cup or Pot-Type	1
Steam Type, Jacketed Dry-steam	6
Steam Type, Self-contained	5
Atomizing	0
Wetted Element	0
Ultrasonic Atomizing Nozzle Humidifier	0
Pneumatic Atomizing Nozzle Humidifier	2
Total Number of Test Space Air Handlers	17
Notes: ¹ Data represent statistics for 17 study space air handling units equipped with humidification systems.	

Variable Descriptions:

Humidification System Types describes the specific humidifier system type for those BASE test space air handling units equipped with humidifiers. The following categories apply:

Heated Pan is a humidification system that uses a heated pan of water that is exposed to the air duct and water evaporates directly into the airstream.

Steam Type, Enclosed Steam Grid is a humidification system where a steam pipe passes through an enclosure within the duct and releases steam into this enclosure. Condensate is drained from the enclosure and dry steam is released into the airstream.

Steam Type, Cup or Pot-Type is a humidification system where steam is fed into a cup attached under an air duct. Condensate drains from the cup and steam is released into the airstream.

Steam Type, Jacketed Dry-steam is a humidification system where steam is supplied to a perforated tube after passing through a condensate separator. This perforated discharge tube is located within a jacket fed by the steam before it passes through the separator. The perforations face into the airstream.

Steam Type, Self-contained is a humidification system where tap water is converted into steam by electrical energy and the steam is injected directly into the airstream.

Atomizing is a humidification system where a high speed disk slings water through a fine comb to create a mist that is introduced directly into the airstream, where it evaporates.

Wetted Element is a humidification system where air is circulated over or through a wetted element, and water evaporates into the airstream.

Ultrasonic Atomizing Nozzle Humidifier generates a water mist without raising its temperature. An electronic oscillation is converted to a mechanical oscillation using a piezo disk immersed in a reservoir of water. The mechanical oscillation is directed at the surface of the water, where at very high frequencies it creates a very fine mist of water droplets.

Pneumatic Atomizing Nozzle Humidifier uses pneumatic air to create a water mist that evaporates into the air.