



ELIMINATE CONDENSATION. MANAGE HUMIDITY IN YOUR WATER TREATMENT FACILITY.



(877) 420-1330
QUESTCLIMATE.COM



CONDENSATION CONTROL 101

The key to controlling condensation in a water facility is understanding the dew point of the air in the building. Have you ever noticed that a cold can of soda will “sweat” in the summer, but not in the winter? The temperature in your house is about the same, so the temperature of the air present cannot be the cause. The difference is the temperatures the air has been subjected to before it entered the structure.

The ability of air to hold moisture is determined by the temperature of the air. Hot air has the capacity to hold substantially more moisture than cold air. 50-degree air can hold approximately twice as much water as 32-degree air. 70-degree air can hold twice as much water as 50-degree air and about four times as much water as 32-degree air.

Relative humidity is the term used to express the percentage of moisture present in the air in relation to the total amount of moisture the air could hold at a given temperature. Air that has a relative humidity of 100% is at its saturation temperature. This is also referred to as the dew point temperature. Air with a relative humidity of 100% at 32 degrees will have a dew point of 32 degrees.

If this air is heated to 50 degrees the relative humidity will be about 50%. If heated to 70 degrees the relative humidity will be about 25%, but the dew point of the air will still be 32 degrees. In order to prevent condensation from forming on cold surfaces, the dew point of the air must be lower than the temperature of cold surfaces. In most groundwater facilities the coldest pipes are approximately 54 degrees.

The air in these facilities must be kept at a dew point lower than 54 degrees to prevent condensation.

Summertime dew point temperatures are normally 60 to 70 degrees, so without a humidity control system the pipes “sweat” almost constantly.



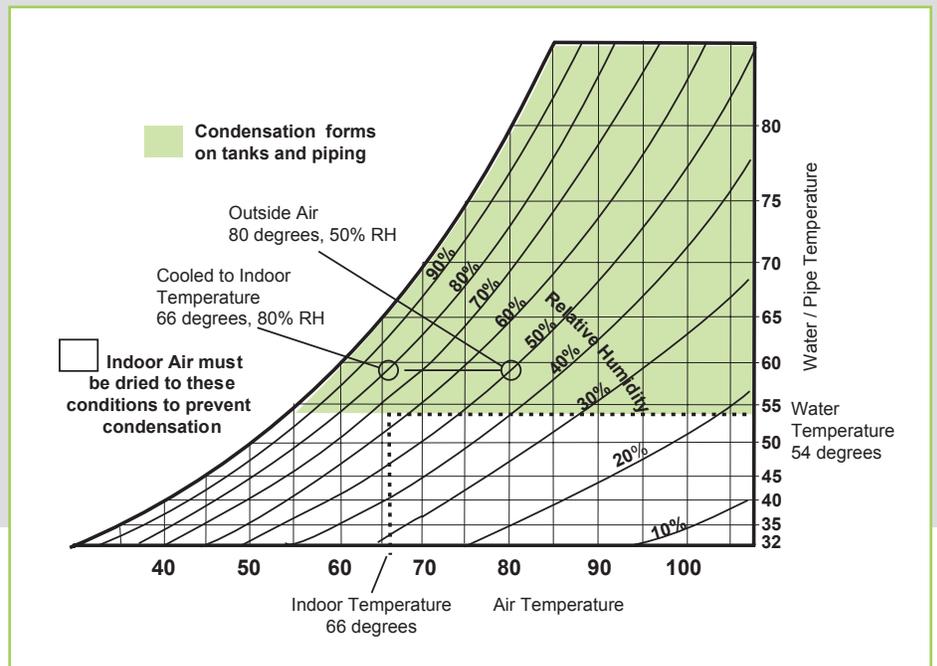
A pound of air at 50 degrees and 100% relative humidity will hold .0076 lbs of water or 53.2 grains. Twice as much as 32-degree air.



A pound of air at 32 degrees and 100% relative humidity will hold .0038 lbs of water or 26.6 grains.



A pound of air at 70 degrees and 100% relative humidity will hold .016 lbs of water or 112 grains. Over four times more than 32-degree air.





QUEST HI-E DRY

DEHUMIDIFIERS

The HI-E Dry dehumidifier utilizes a patented reevaporator process designed and built with an emphasis on efficiency and durability.

HI-E Dry dehumidifiers remove up to seven pints of water per kilowatt while the industry average remains at only two to three pints.



SELECTING HIGH EFFICIENCY EQUIPMENT

It's important to look at the highest efficiency units available that have the capacity to "fit" the particular conditions and requirements of a specific facility. The size of the facility is rarely an issue since multiple units can be used if the moisture load of the plant is higher than the capacity of a single unit.

ENVIRONMENTAL CONSIDERATIONS

Reaching dew points below 50 degrees in room temperatures of 65 degrees or less can become an issue for a number of dehumidification options. Most refrigeration dehumidifiers freeze-up under these conditions and are ineffective.

HI-E Dry dehumidifiers operate superbly under these conditions while using less energy and offering much lower equipment and installation costs than alternative solutions.

The high efficiency design of HI-E Dry dehumidifiers offer more than just dramatically reduced operating costs. The larger water removal capacity from a smaller, more efficient refrigeration system eliminates the need for hard wiring special circuits. HI-E Dry dehumidifiers just plug into a standard 115 volt outlet.

The smaller refrigeration system also means a HI-E Dry dehumidifier will cost less than competitive systems of equal capacity. In some cases, water utilities can cut their initial equipment costs to a fraction of the anticipated cost and have the realized energy savings of the first year equal the initial cost of the HI-E Dry system.

Our team will work with you to size the dehumidification system necessary to control the condensation in your facility.

HI-E Dry dehumidifiers are **designed** and built with emphasis on **efficiency** and **durability**.



HI-E DRY DEHUMIDIFIERS



Quest Dry 70

Specifications:

Power: 115 volt, 5.1 amps
 Blower: 150 cfm
 Temp. range: 45°F - 95°F
 Warranty: 5 year limited
 Duct Kit: 8" round (optional)

Capacities per 24 hours

80°F, 80% 85 pints
 80°F, 60% 70 pints
 60°F, 80% 50 pints

Dimensions:

Width: 21 inches
 Height: 12 inches
 Depth: 12 inches
 Weight: 55 lbs



HI-E Dry 120

Specifications:

Power: 115 volt, 6.4 amps
 Blower: 275 cfm
 Temp. range: 40°F - 110°F
 Warranty: 5 year limited
 Duct Kit: 12" round inlet
 10" round exhaust

Capacities per 24 hours

80°F, 80% 129 pints
 80°F, 60% 106 pints
 60°F, 80% 94 pints

Dimensions:

Width: 20 inches
 Height: 42 inches
 Depth: 19 inches
 Weight: 110 lbs



HI-E Dry 195

Specifications:

Power: 115 volt, 13.1 amps
 Blower: 610 cfm
 Temp. range: 40°F - 110°F
 Warranty: 5 year limited
 Duct Kit: 12" round inlet
 10" round exhaust

Capacities per 24 hours

80°F, 80% 250 pints
 80°F, 60% 195 pints
 60°F, 80% 162 pints

Dimensions:

Width: 20 inches
 Height: 42.0 inches
 Depth: 19.0 inches
 Weight: 130 lbs



506

Specifications:

Power: 230 volt, 11 amps
 Blower: 1500 cfm
 Temp. range: 45°F - 95°F
 Warranty: 5 year limited
 Duct Kit: 12" round (optional)

Capacities per 24 hours

80°F, 80% 605 pints
 80°F, 60% 506 pints
 60°F, 60% 278 pints

Dimensions:

Width: 28.9 inches
 Height: 33.8 inches
 Depth: 44.7 inches
 Weight: 280 lbs

ETL Listed



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