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.

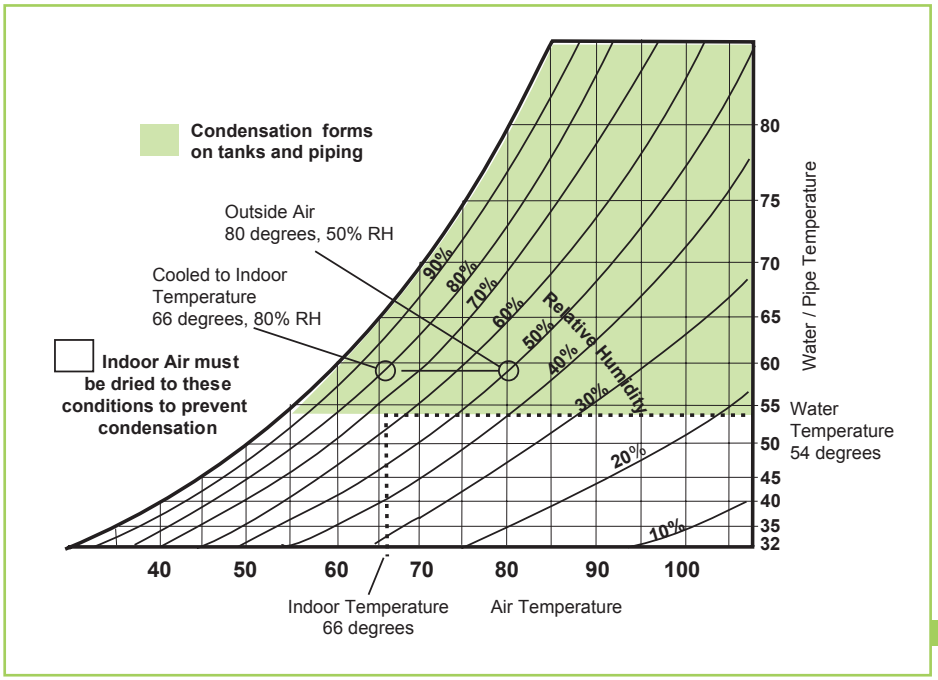
The air in these facilities must be kept at a dew point lower than 54 degrees to prevent condensation.

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.



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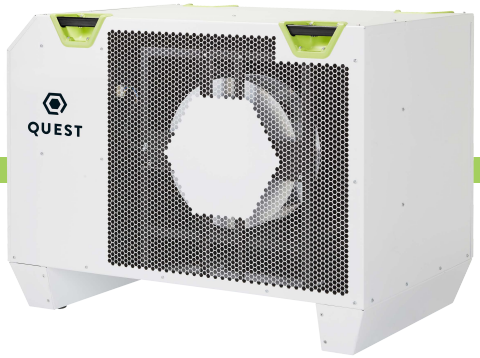

QUEST 100

SPECIFICATIONS:

Efficiency:	7.5 Pints/kWh
Power:	115 volt
Draw:	5.0 amps
Blower:	280 cfm
Temp:	56°F - 95°F

CAPACITIES PER 24 HOURS

80°F, 60%	100 pints
70°F°, 50%	63 pints
60°F, 60%	48 pints

DIMENSIONS:

Width:	24 inches
Height:	14.5 inches
Depth:	16 inches
Weight:	60 lbs

QUEST 335

SPECIFICATIONS:

Efficiency:	9.3 Pints/kWh
Power:	208-230 volt
Draw:	7.9 amps @208V 6.9 amps @230V
Blower:	900 cfm
Temp:	56°F - 95°F

*also available in 277 volt

CAPACITIES PER 24 HOURS

80°F, 60%	350 pints
70°F°, 50%	204 pints
60°F, 60%	187 pints

DIMENSIONS:

Width:	32.9 inches
Height:	23.7 inches
Depth:	24.6 inches
Weight:	215 lbs

HI-E DRY 195

SPECIFICATIONS:

Efficiency:	5.4 Pints/kWh
Power:	115 volt
Draw:	13 amps
Blower:	610 cfm
Temp:	56°F - 110°F

CAPACITIES PER 24 HOURS

80°F, 60%	195 pints
70°F, 50%	120 pints
60°F, 60%	88 pints

DIMENSIONS:

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

QUEST 746

SPECIFICATIONS:

Efficiency:	7.3 Pints/kWh
Power:	480 volt - 3 Phase
Draw:	6.5 amps
Blower:	1750 cfm
Temp:	56°F - 95°F

CAPACITIES PER 24 HOURS

80°F, 60%	746 pints
70°F, 50%	560 pints
60°F, 60%	420 pints

DIMENSIONS:

Width:	44.8 inches
Height:	34.1 inches
Depth:	28.9 inches
Weight:	340 lbs

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FIVE YEAR 5 WARRANTY

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4201 LIEN RD.
MADISON, WI 53704

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