

Ventilation for Acceptable Indoor Air Quality

Part 5 – Building Pressurization for Acceptable IAQ

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ASHRAE Standard 62.1-2019

Section 5 - Systems and Equipment

5.11 Building Exfiltration. Ventilation systems for a building equipped with or served by mechanical cooling equipment shall be designed such that the total building outdoor air intake equals or exceeds the total building exhaust under all load and dynamic reset conditions.

Exceptions:

2. When outdoor air dry-bulb temperature is below the indoor space dew-point design temperature.

Informative Note: Although individual zones within a building may be neutral or negative with respect to outdoors or to other zones, net positive mechanical intake airflow for the building as a whole reduces infiltration of untreated outdoor air.



Negative Pressure and IAQ



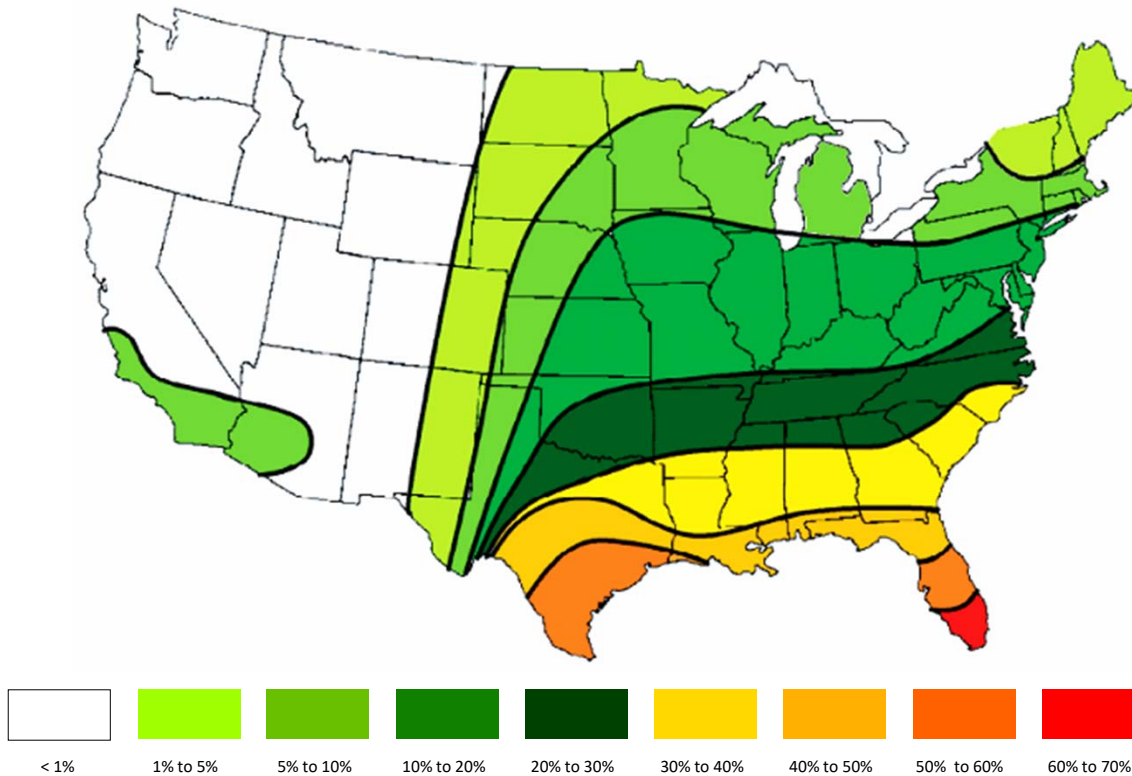
Cooling



High Dew Point Regions

Percentage of year that the dew point exceeds 65 F

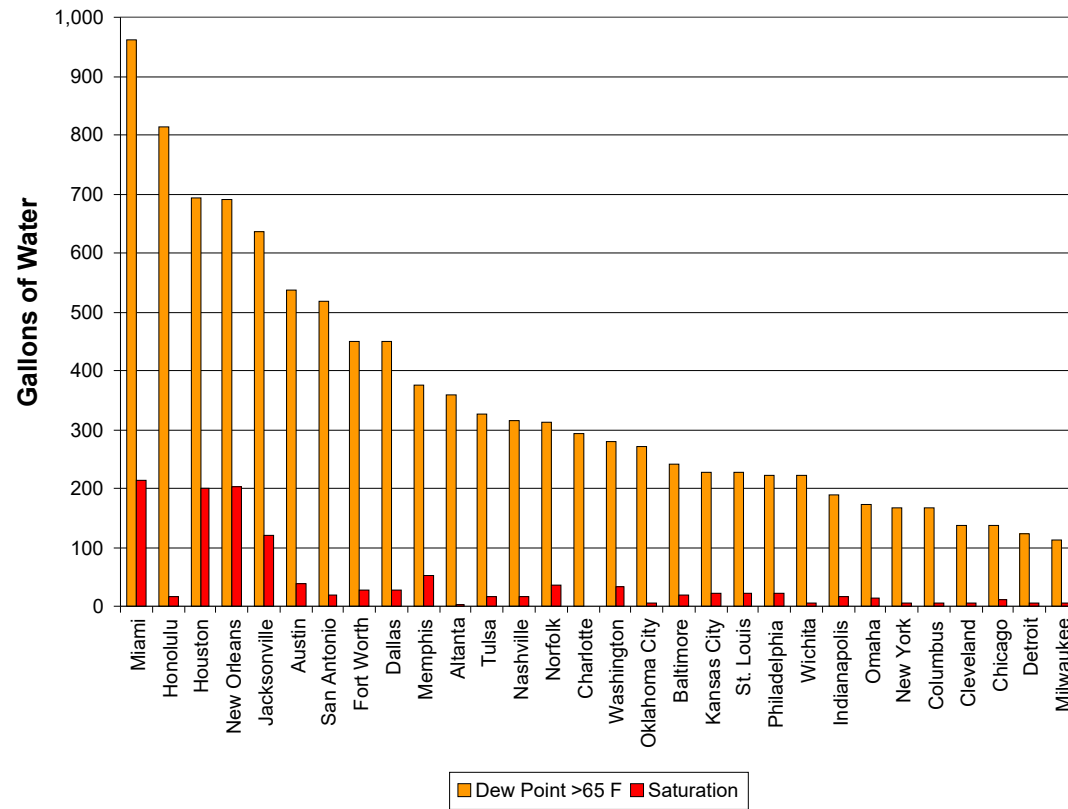
5 year hourly dry bulb and dew point analysis



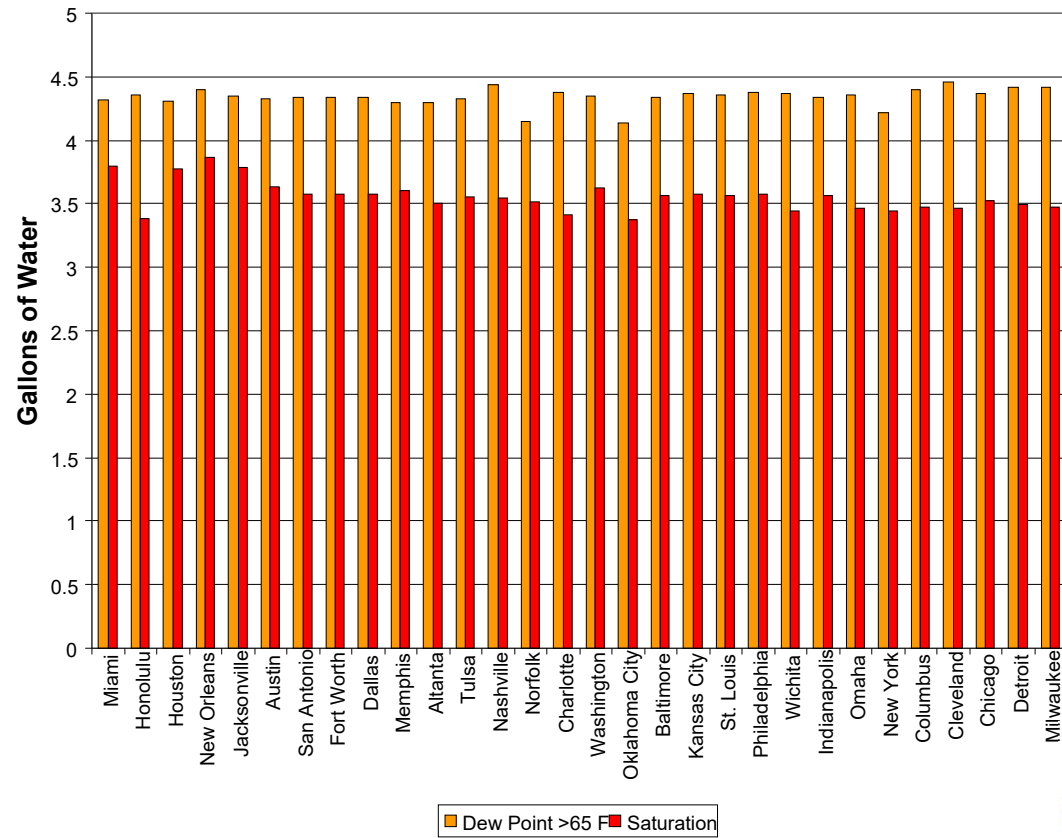
Data provided to EBTRON courtesy of the Forecast Institute, Inc.



**Annual Gallons of Water Transported Across the Building
Envelope for every 1,000 CFM of Negative Airflow
First 30 of top 50 US Cities by Population (2000 Census)**



**Avg. Daily Gallons of Water Transported Across the Building
Envelope for every 1,000 CFM of Negative Airflow
(when outdoor conditions specified exist)**




Free Cooling (i.e. economizing)



Heating





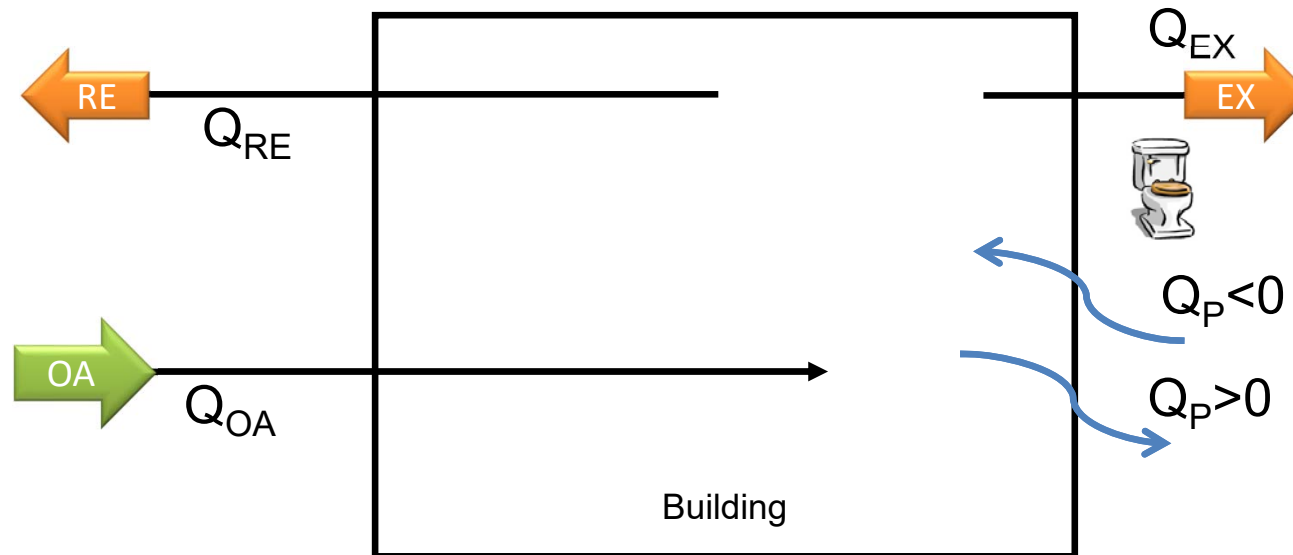
Does building pressure
really matter for the
average building?

ABSOLUTELY!

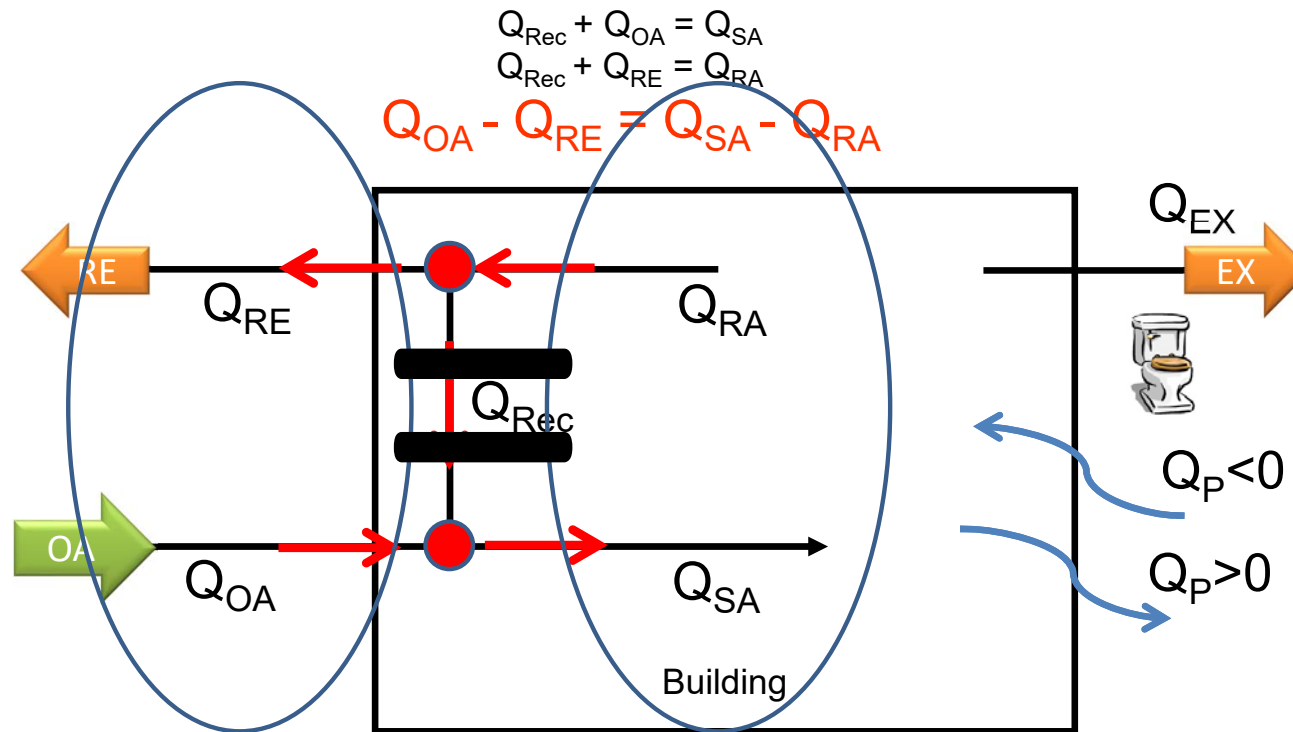
Building Pressure



Understand the Pressurization Flow



Understand the Pressurization Flow



Thank You!

Questions? More information?

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