



The "Dampness Chart" targets the moisture lines through specific RH points at 20C, rather than concerning itself with the 100% RH dew points

Philip Oakley (c) 2025

Reading the simplified humidity chart

Electronic humidity and temperature sensors are now very cheap and common. However it is not always obvious how best to interpret the readings, especially if one has condensation problems.

The simplified psychrometric chart is focused on the casual user with such sensors. The regular psychrometric chart used by heating engineers can appear over complex.

To use the chart, take your pair of temperature and RH readings and locate their position on the chart. The trend lines show how the RH will change as the air cools or heats as it moves about the room or wider environment.

As the air cools it will feel 'dampier'. Ultimately the water vapour in the air will turn to moisture, such as condensation or dew droplets when it reaches 100% (saturated) RH.

The common recommendation is to have an RH of between 40% and 60%, and an air temperature of between 17C and 22C, depending on preferences. This is shown as a boxed area with dashed lines.

Above 75% RH, household salt starts to become mushy.

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13 March 2024

Sources:

<https://www.cibsejournal.com/cpd/modules/2009-04/> Module 3: The properties of air ***
<https://www.cibsejournal.com/cpd/modules/2009-08/> Module 7: Applying the psychrometric relationships
<https://www.cibsejournal.com/cpd/modules/2009-10/> Module 9: The basic psychrometric processes
<https://www.cibsejournal.com/cpd/modules/2009-12/> "Module 11: The psychrometrics of HVAC sub-systems "
<https://www.cibsejournal.com/cpd/modules/2010-03/> Module 14: The psychrometrics of air conditioning systems
<https://www.cibsejournal.com/cpd/modules/2010-12/> Module 23: Travelling into time with psychrometry

Note that the saturation vapour pressure, which sets the 100% humidity point, is not dependent upon the atmospheric pressure. It is a material property.

Note the $PV=RT$ gas laws when comparing vapour pressure /m², and air density

Saturated air at 20 °C about 17 g/m³.

<https://manual.museum.wa.gov.au/book/export/html/89/index.html>