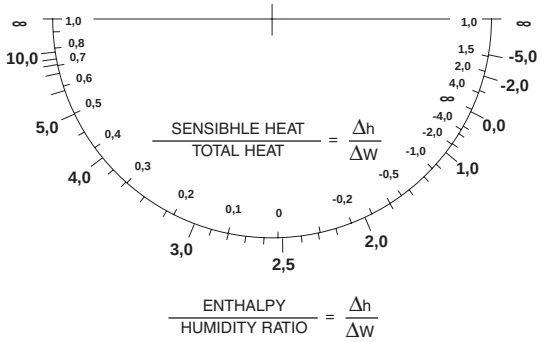
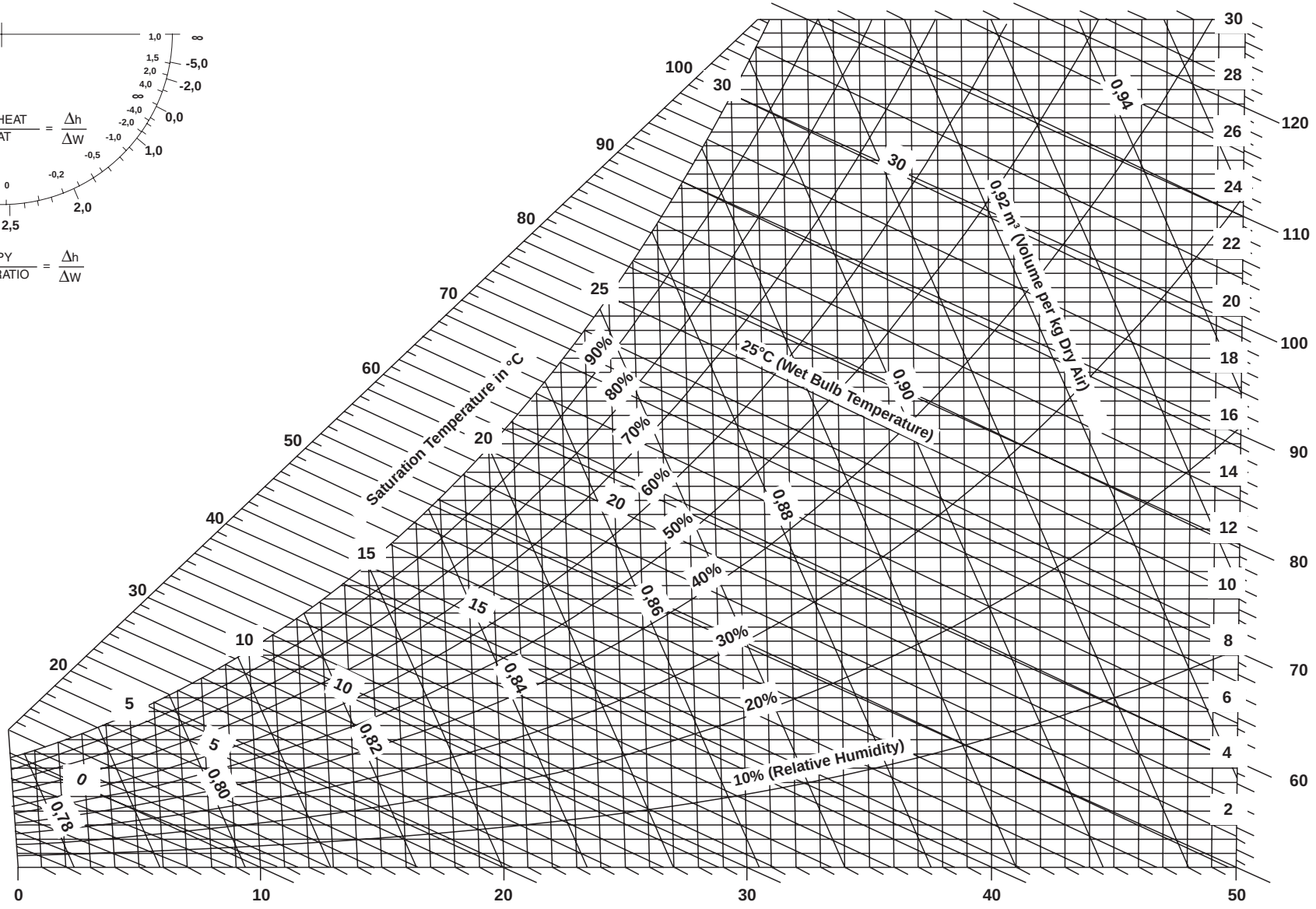
Psychrometric & Humidification





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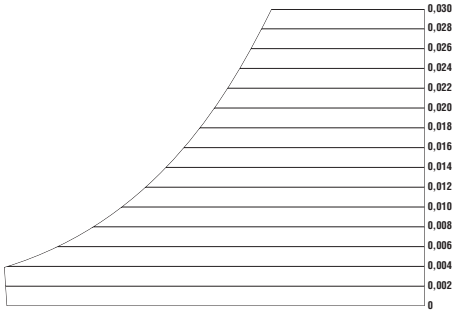
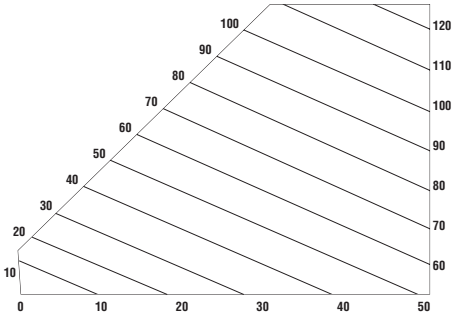
The psychrometric chart is a graphical representation of the thermodynamic properties which impact moist air.

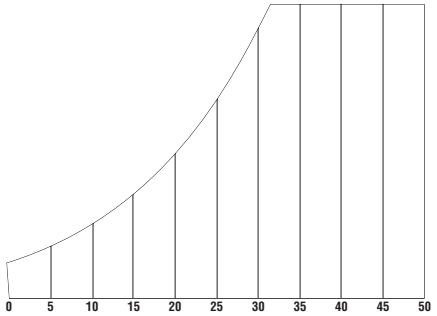
It consists of eight major components:



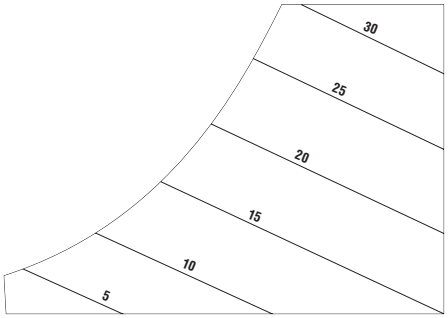
1. Humidity ratio values are plotted vertically along the right-hand margin, beginning with 0 kg/kg of dry air at the bottom and extending to 0,03 kg/kg of dry air at the top.



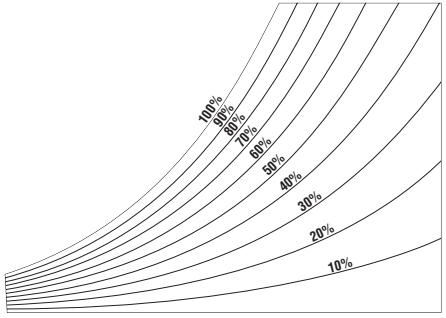
2. Enthalpy, or total heat, is plotted with oblique lines, at intervals of 10 kJ/kg of dry air, extending from upper left to lower right.



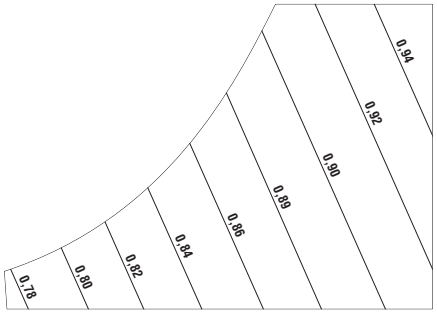
3. Dry-bulb temperature lines are plotted vertically at 1°C intervals.



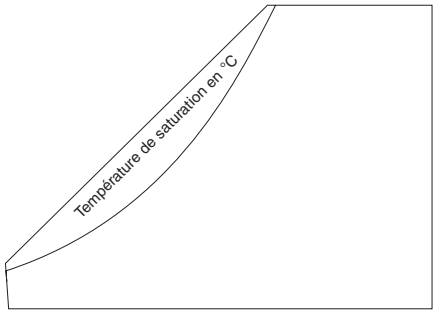
4. Wet-bulb temperature lines are indicated obliquely and fall almost parallel to enthalpy lines. They are shown at 1°C intervals.



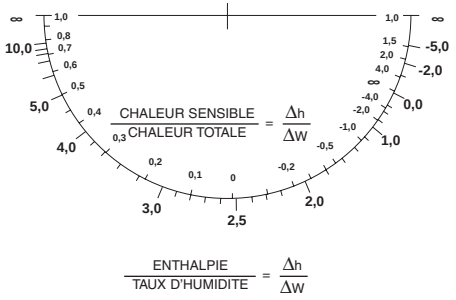
5. Relative humidity lines curve across the chart form left to right at intervals of 10%. They begin at the bottom at 10% and end at the top with the saturation curve (100%).



6. Volume lines indicating cubic meter per kilogram of dry air are plotted at intervals of 0,01 m³.



7. Two-phase region includes a narrow, cross-hatched area to the left of the saturation region indicating a mixture of condensed water in equilibrium.



8. The protractor at the upper left of the chart contains two scales. One is for the ration of enthalpy difference. The other is for a ratio of sensible heat to the total heat. The protractor establishes the angle of a line on the chart along which a process will follow.

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