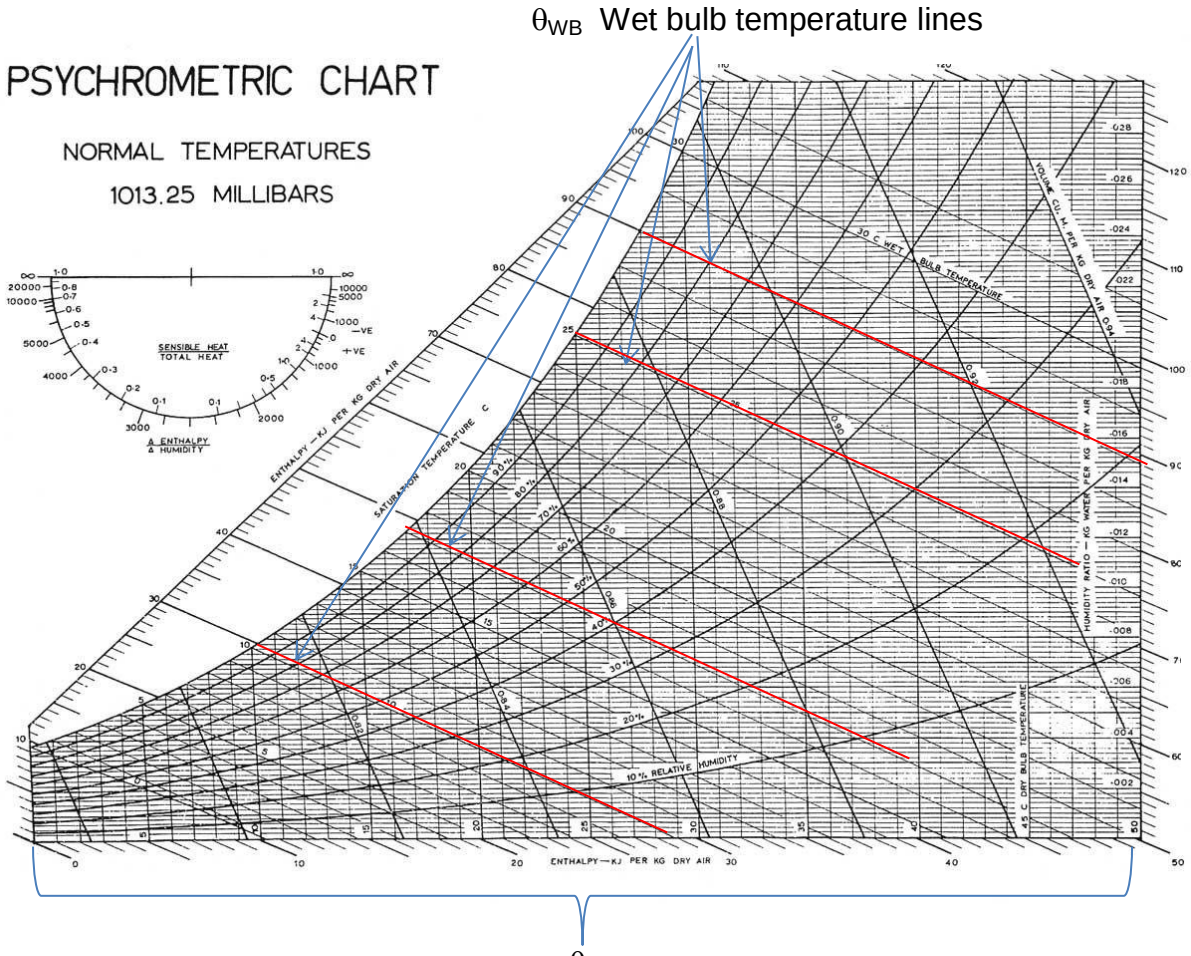
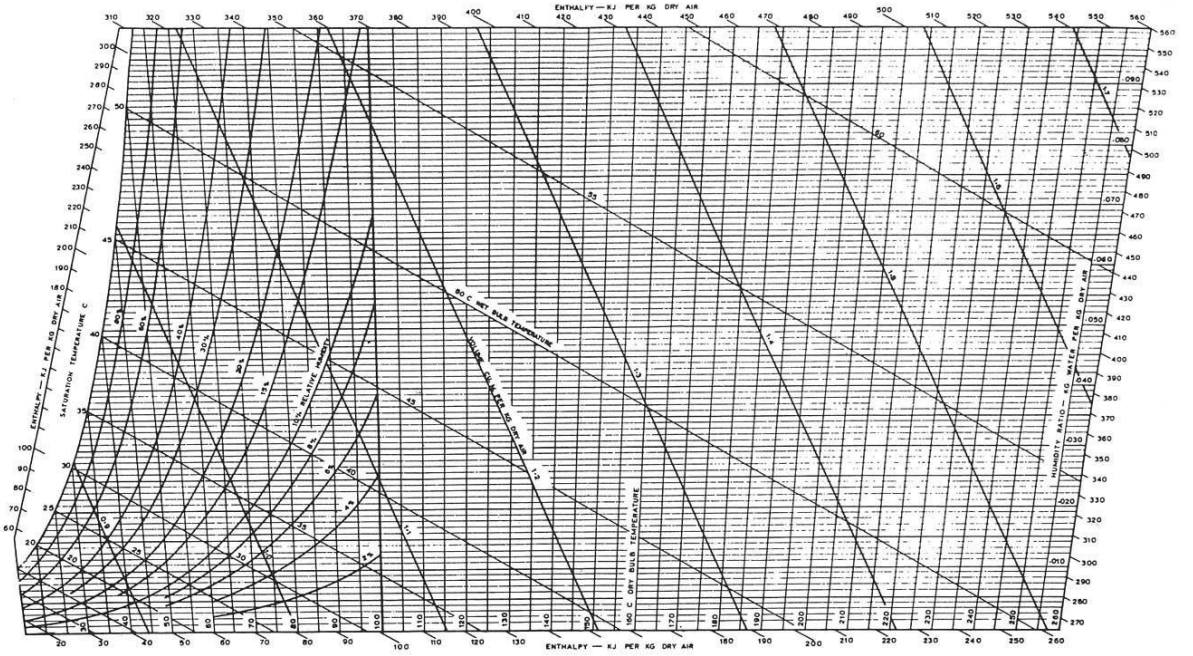
Reading Psychrometric Charts

There are two charts available, Low/Normal Temperature and High Temperature charts. They are both the same except the θ_{DB} (Dry bulb temperature) scale goes to 260°C on the High temperature charts compared to 50°C on the Normal temperature charts.



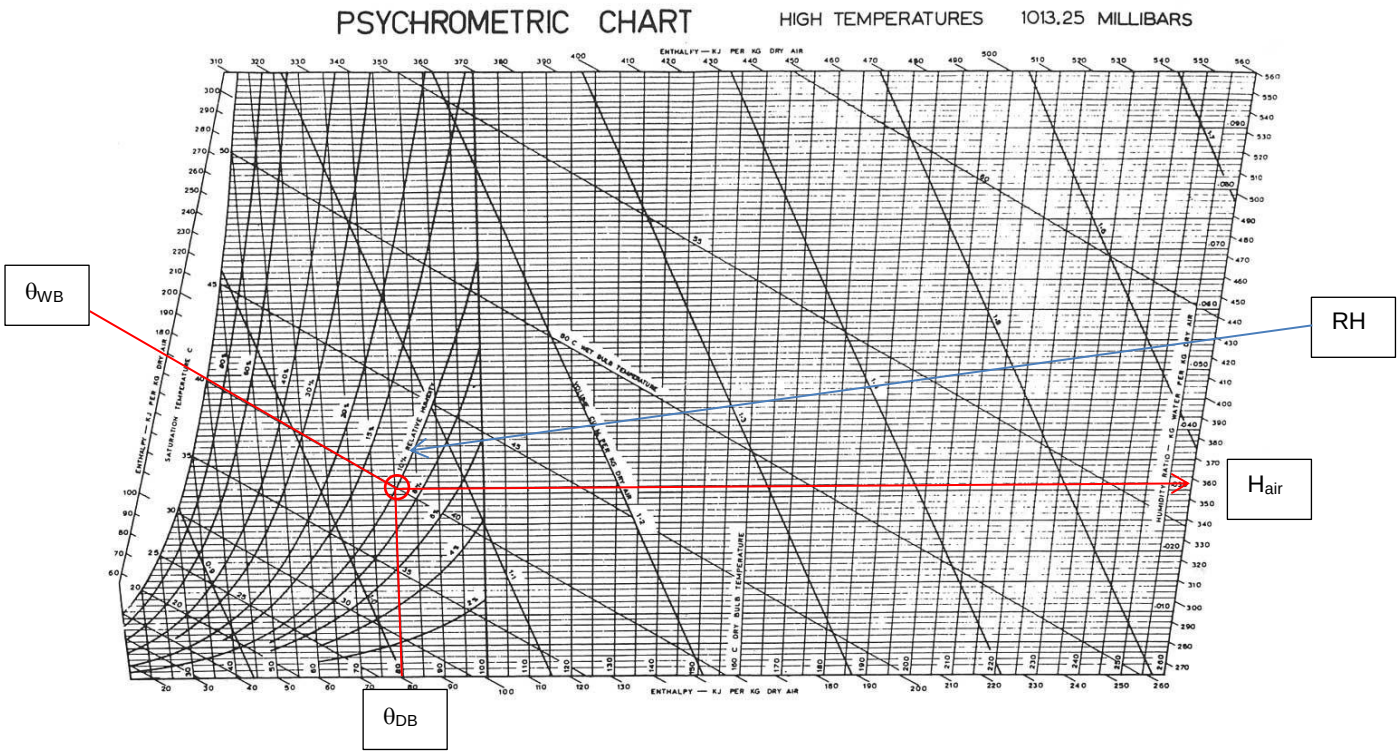
PSYCHROMETRIC CHART

HIGH TEMPERATURES 1013.25 MILLIBARS

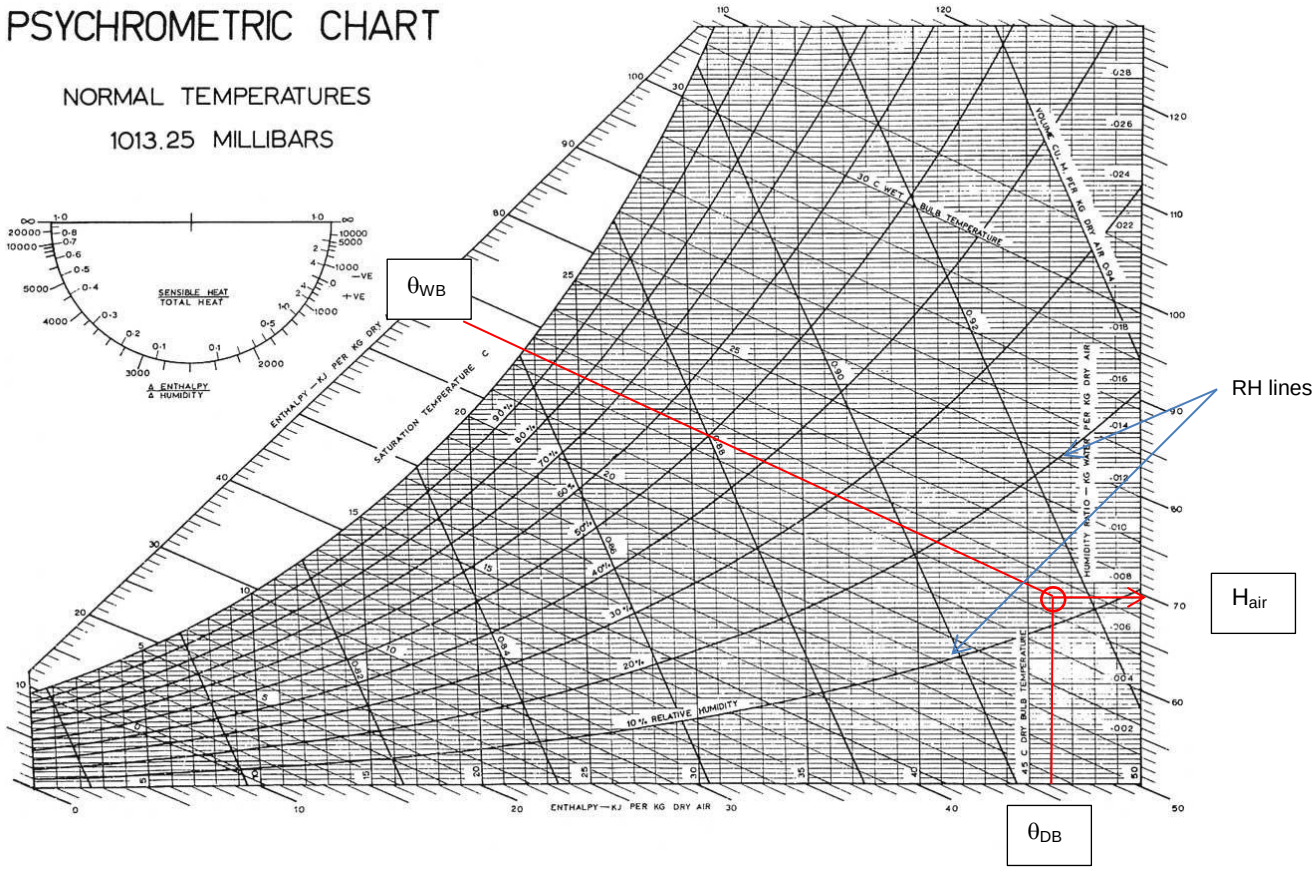


You need two values before you can use a psychrometric chart.
Here are some examples.

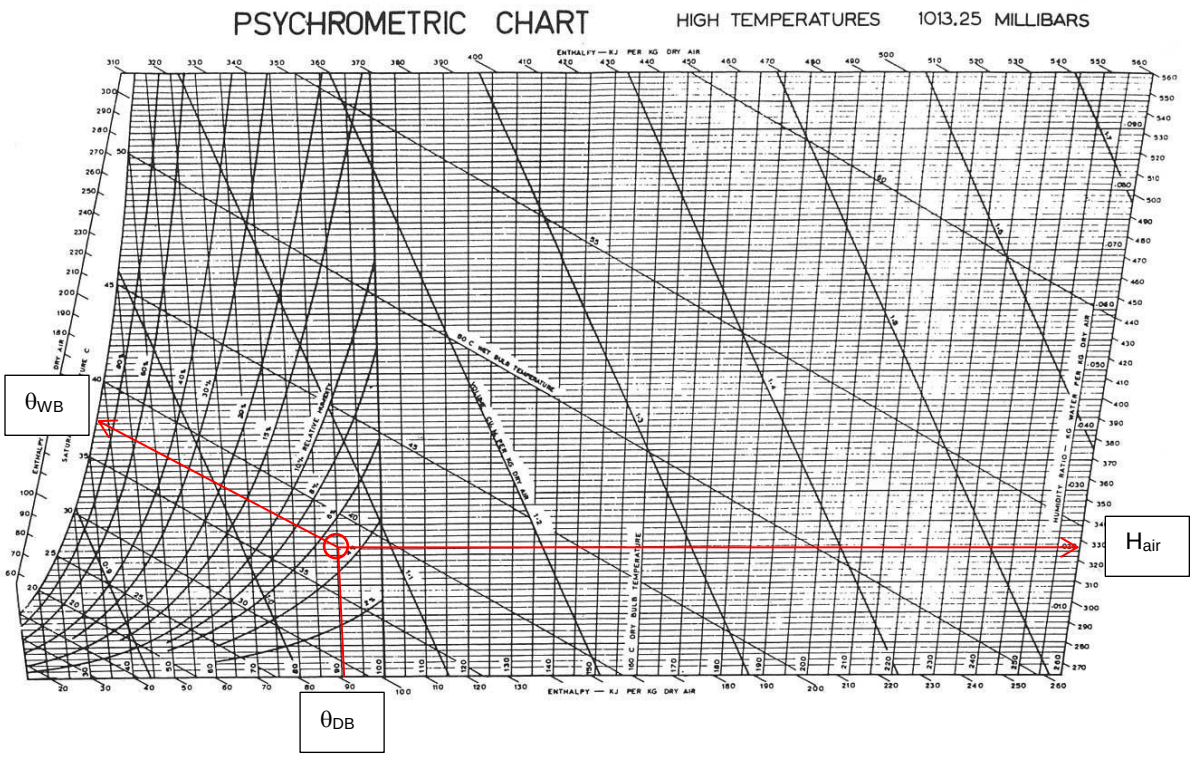
1. θ_{DB} = 80°C and θ_{WB} = 40°C therefore:
H_{air} = 0.031 kg/kg
Relative Humidity (RH) = 10%



2. θ_{DB} = 46°C and θ_{WB} = 22.5°C therefore:
H_{air} = 0.0076 kg/kg
Relative Humidity (RH) = 12%



3. RH = 5%, θ_{DB} =90°C , therefore
θ_{WB} = 37.5°C H_{air} = 0.021 kg/kg



What is the enthalpy of this air in example 3.
Extend the θ_{WB} line to the enthalpy line on the LHS of the chart.

h = 148 kJ/kg