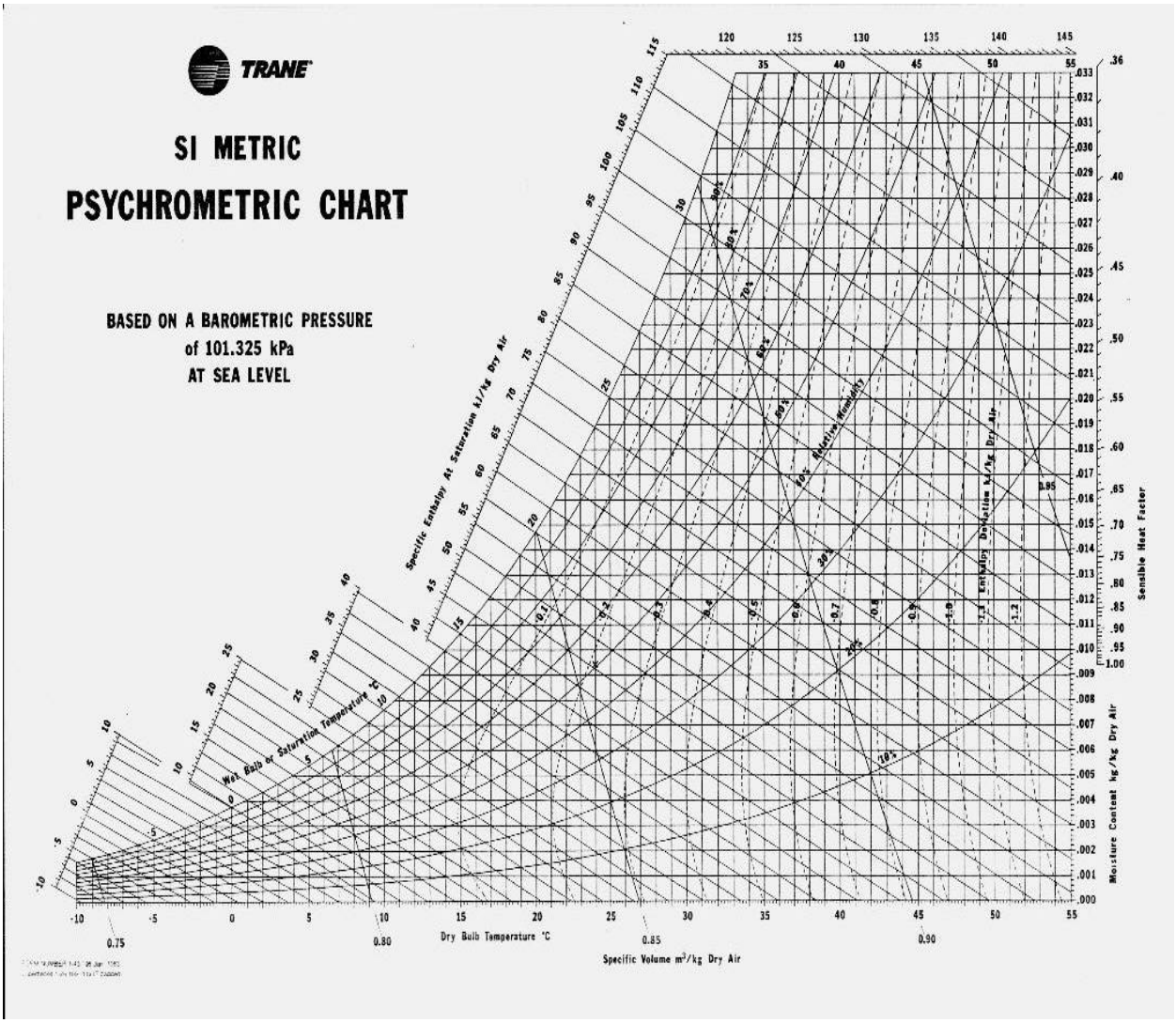
Topic- Psychrometric Process>

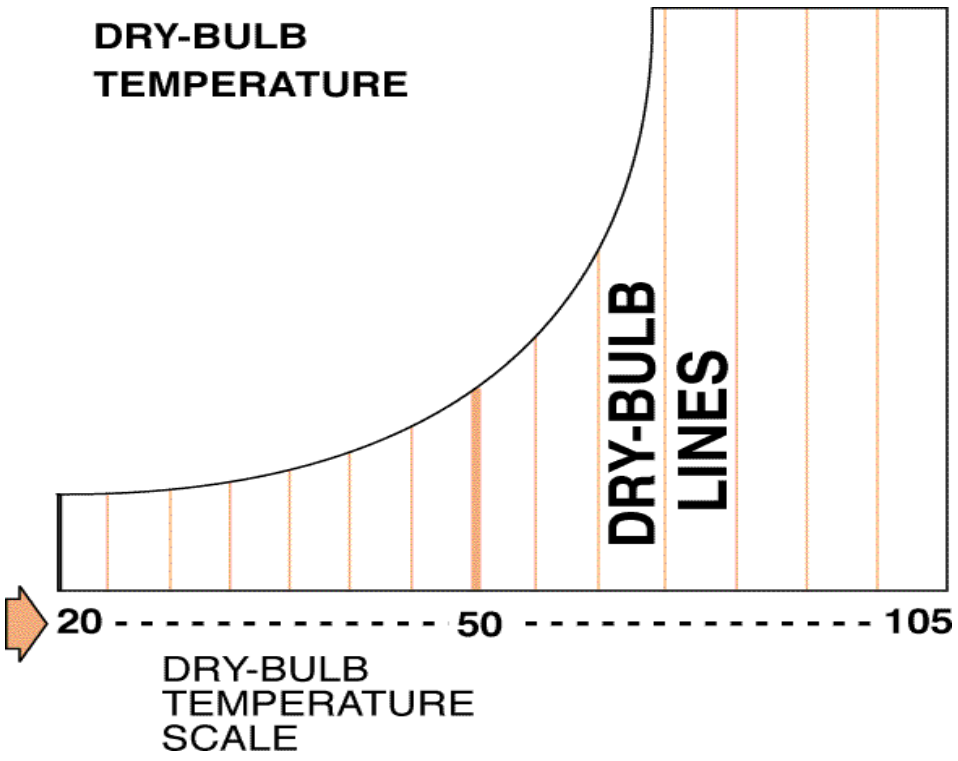
PSYCHROMETRIC CHART

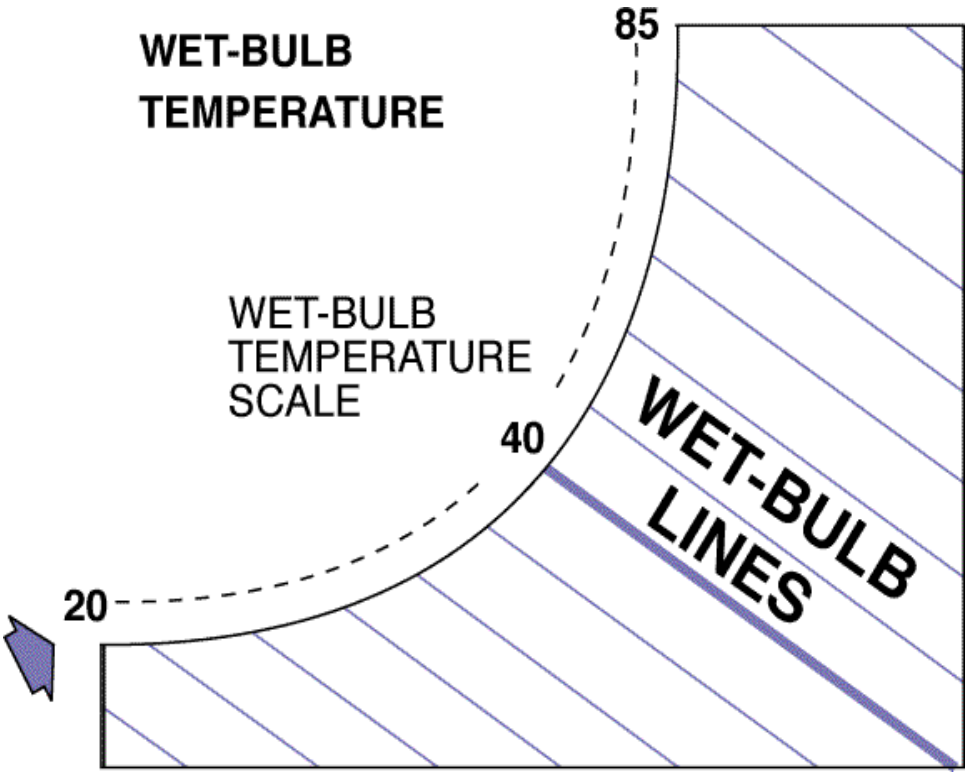
>Identify parts of the chart

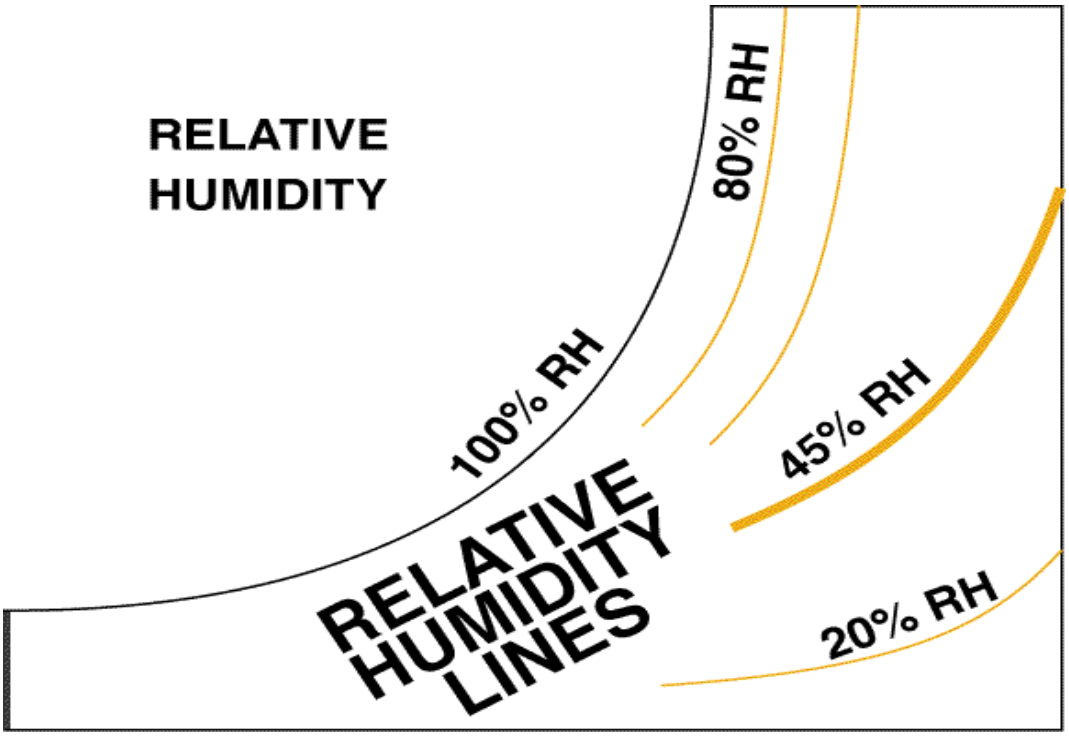
>Determine moist air properties

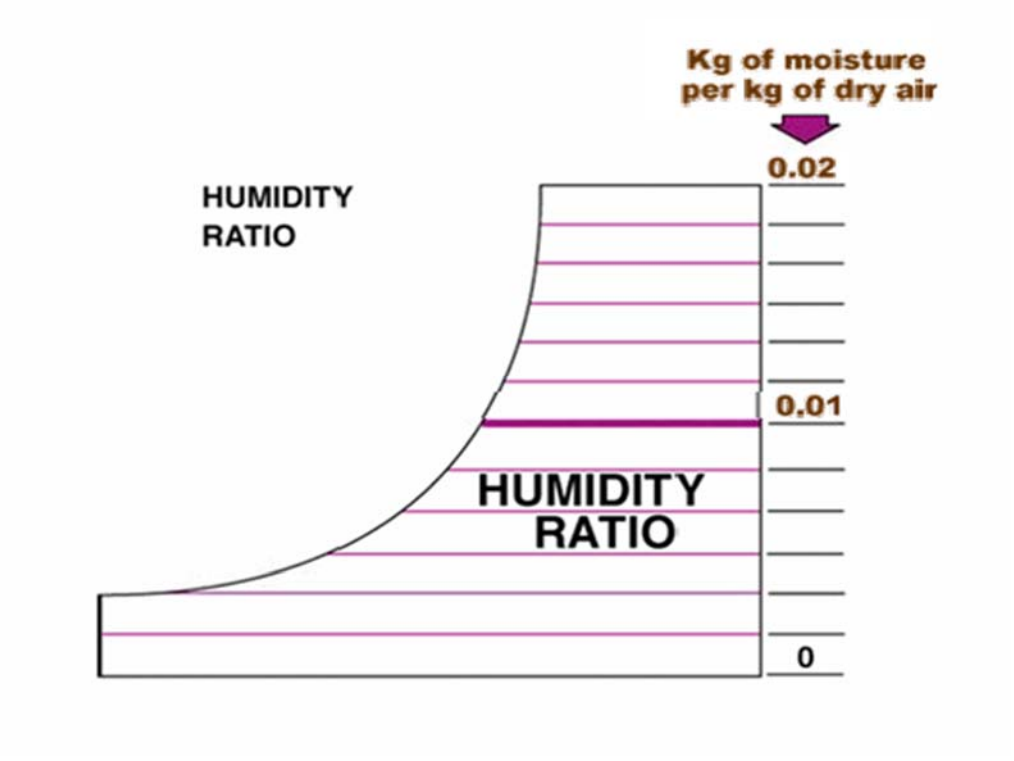
>Use chart to analyze processes involving moist air

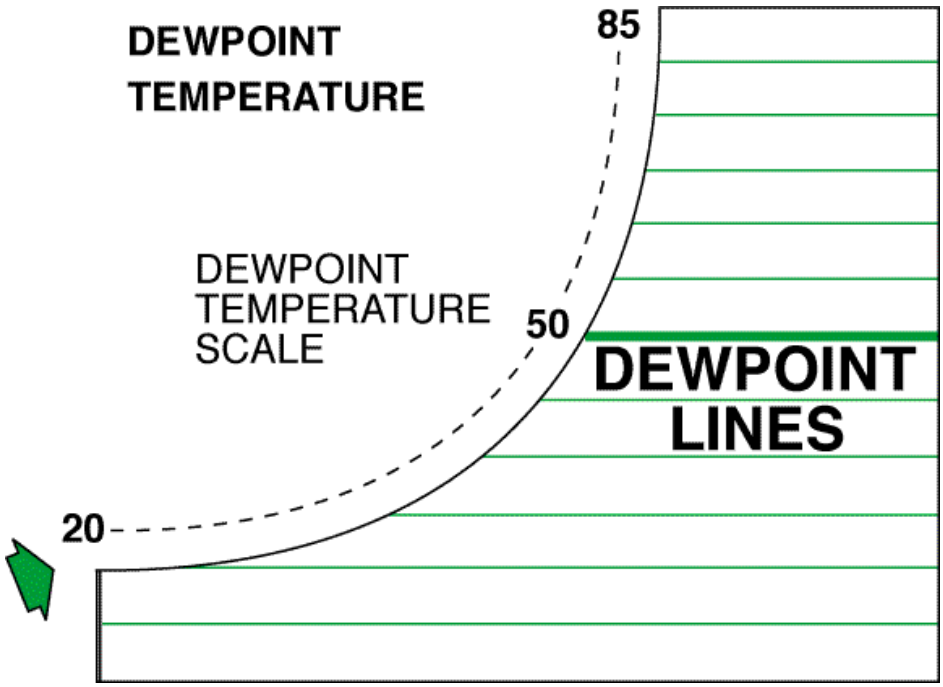


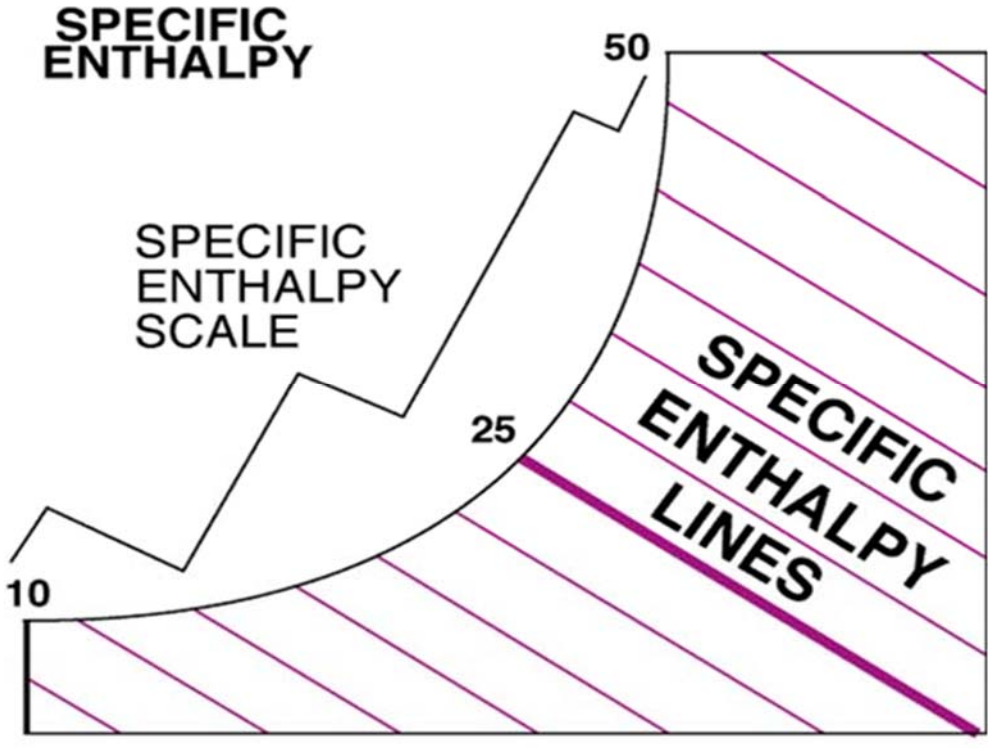

DRY-BULB
TEMPERATURE
DRY-BULB
LINES
20
50
105
DRY-BULB
TEMPERATURE
SCALE

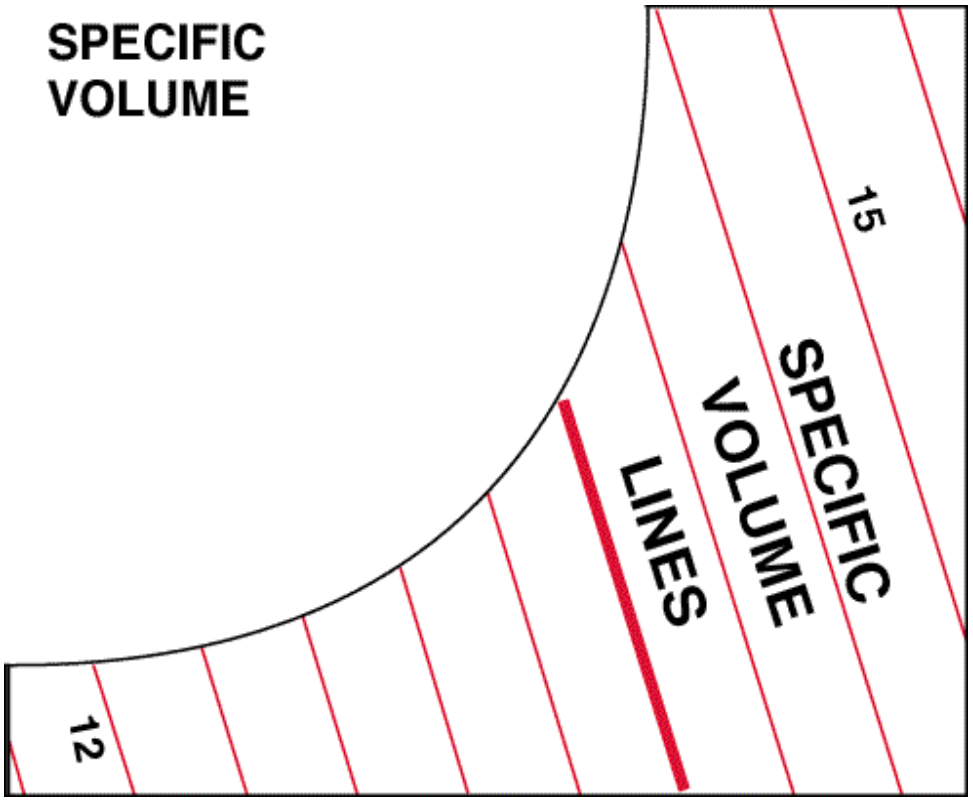

WET-BULB
TEMPERATURE
85
WET-BULB
TEMPERATURE
SCALE
40
WET-BULB
LINES
20


RELATIVE
HUMIDITY
80% RH
100% RH
45% RH
20% RH
RELATIVE
HUMIDITY
LINES


Kg of moisture
per kg of dry air
HUMIDITY
RATIO
0.02
0.01
0
HUMIDITY
RATIO


DEWPOINT
TEMPERATURE
85
DEWPOINT
TEMPERATURE
SCALE
50
DEWPOINT
LINES
20


SPECIFIC
ENTHALPY
50
SPECIFIC
ENTHALPY
SCALE
25
SPECIFIC
ENTHALPY
LINES
10

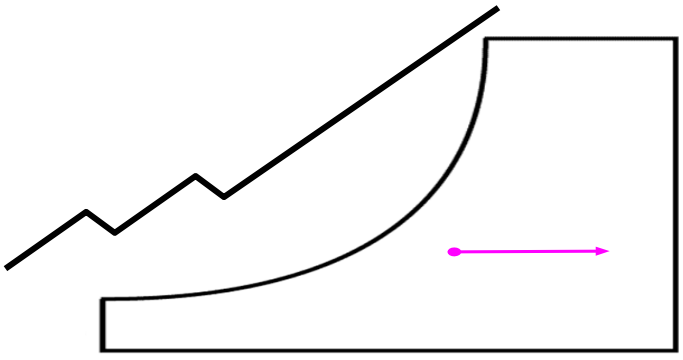


PSYCHROMETRIC PROCESSES>

Sensible Heating or Cooling>

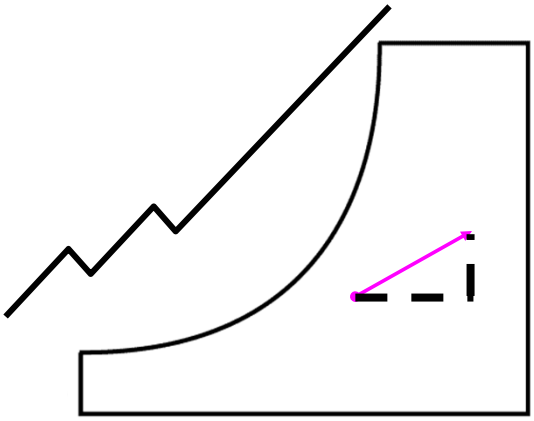
a psychrometric process that involves the increase or decrease in the temperature of air without changingits humidity ratio.

Example: passing moist air over aroom space heater and of kiln air over the heating coils.



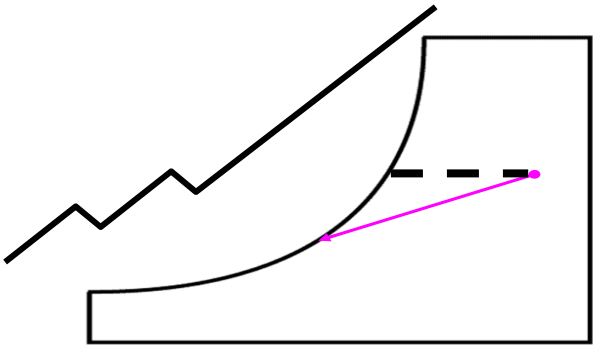
Heating and Humidifying>

a psychrometric process that involves the simultaneous increase in both the dry bulb temperature and humidityratio of the air.



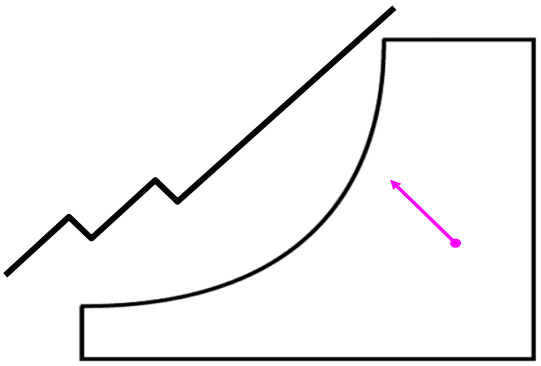
Cooling and Dehumidifying>

a psychrometric process that involves the removal of water from the air as the air temperature falls below the dew- point temperature.



Adiabatic or Evaporative Cooling>

a psychrometric process that involves the cooling of air without heat loss or gain. Sensible heat lost by the air is converted to latent heat in the added water vapor



Adiabatic Mixing of Moist Air Stream>

A psychrometric process that involves no net heat loss or gain during the mixing of two air streams.