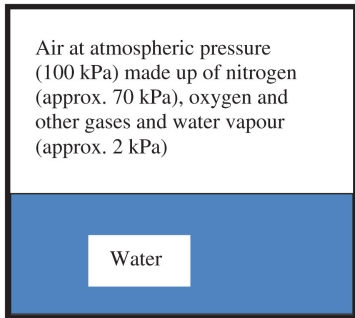


(a) **Water and air in equilibrium at 20°C**

Vapour pressure = 2 kPa

Saturation vapour pressure = 2 kPa

RH = 100%

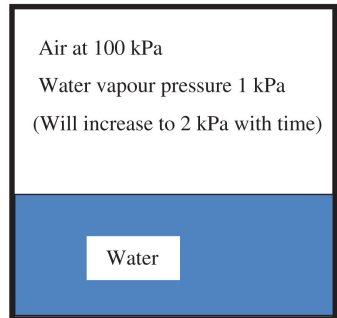


(b) **Half of the gas is replaced with dry air**

Vapour pressure = 1 kPa

Saturation vapour pressure = 2 kPa

RH = 50% (typical for inside a building)

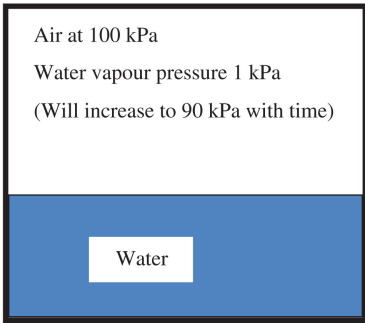


(c) **The temperature is increased rapidly to near 100°C (total pressure held constant)**

Vapour pressure = 1 kPa

Saturation vapour pressure = 90 kPa (reaches atmospheric pressure at 100°C)

RH = 1.1%



(d) **The temperature is decreased below 20°C (total pressure held constant)**

Vapour pressure = 1 kPa

Saturation vapour pressure = 0.5 kPa

RH = 100% (cannot go above this. Will cause condensation or fog)

