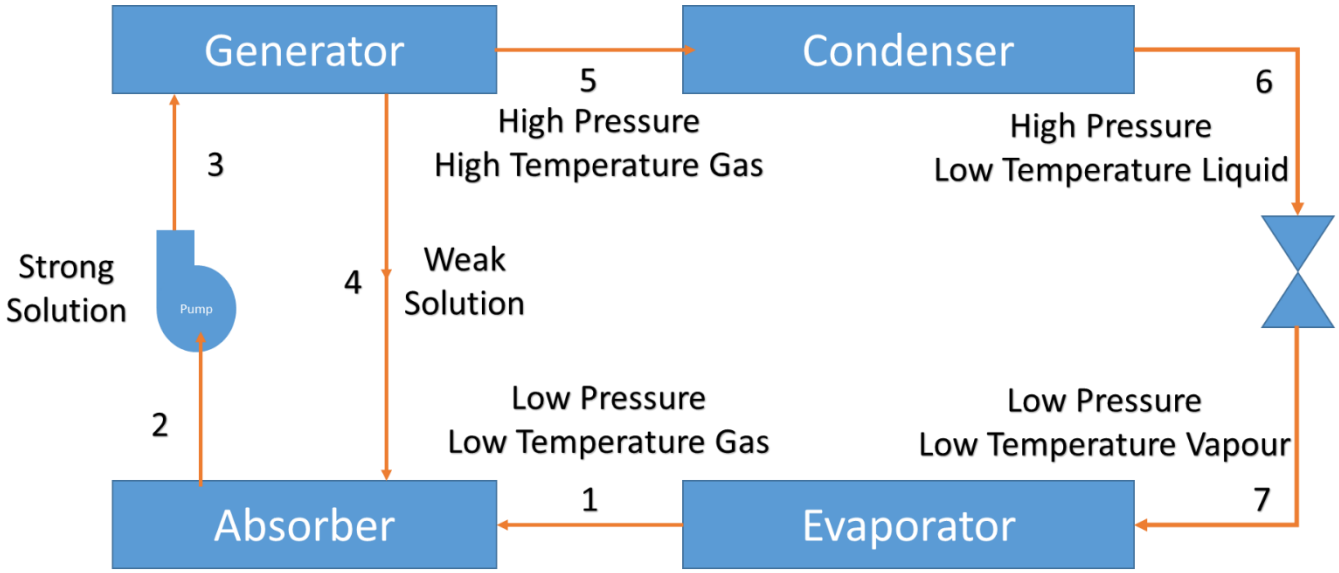
Vapour Absorption Refrigeration



Refrigerant = NH_3

Absorbent = Water

➢ *Absorber (1-2)*

It is filled with cold water (Absorbent) that can absorb the refrigerant (NH_3) coming out of Evaporator.

➢ *Pump (2-3)*

It is there to send the strong solution of water and ammonia to the generator at high pressure.

➢ *Generator (3-4,5)*

Here, the heat is provided to the water-ammonia solution. At high temperature, solubility of ammonia in water is decreased. So, it will be released from water and that will be supplied to condenser at high pressure and high temperature. The remaining water

having very less amount of ammonia (weak solution) will go back to the absorber to absorb ammonia again.

➢ *Condenser (5-6)*

It release the heat of refrigerant to the atmosphere. So, the temperature decreases and we will get the refrigerant at high pressure and Low temperature in Liquid phase outside the condenser at point 3

➢ *Expansion Device (6-7)*

It allows the refrigerant to expand. So, the pressure decreases and we will get the refrigerant at low pressure and Low temperature in vapour phase outside the expansion device at point 4

➢ *Evaporator (7-1)*

It absorbs the latent heat required to convert the vapour refrigerant into gas from the atmosphere. So, the things surrounding the evaporator gets cooled. And we will get the refrigerant at Low pressure and Low temperature in Gas phase outside the evaporator at point