

Absorption processes:

Absorption refers to a physical process, in which gas molecules are stored in a (usually) liquid phase. In addition to the absorbed material, the liquid phase also has at least one other component with a so-called **affinity** (force of attraction) to the gaseous substance. The gaseous substance to be absorbed is called absorbate and the liquid solvent absorbent. Thermal energy is released during the absorption process through the phase change.

Absorption and **desorption processes** (reversal process of absorption) can be used for heat pumps and cooling processes. The temperature shift of the absorption or desorption process with respect to the phase change temperature of isolated components (condensation and evaporation) is used. This means that at the same pressure absorption and desorption would occur at higher temperatures than condensation or evaporation.

Common absorbents for technical applications such as absorption heat pumps are for example aqueous salt solutions, which have an affinity to the water vapor, i.e. are **hygroscopic** (attract water).