Glossary

1 Ton - 12,000 Btu/hr

Btu - British Thermal Unit: The amount of heat required to raise 1 lb. of water 1ºF.

COP: The efficiency of a refrigerator (known as the coefficient of performance, COP) is defined as

$$P = \frac{\text{ount of heat removed from the inside of the refrigerator}}{\text{Work done to operate the refrigerator}} \quad \frac{Q_C}{W}$$

Latent Heat - Heat that is absorbed/rejected by a material resulting in a change of physical state (occurring at constant temperature).

Latent Heat of Fusion - The quantity of heat (Btu/lb) required to change 1 lb. of material from the solid phase into the liquid phase.

Latent Heat of Vaporization - The quantity of heat (Btu/lb) required to change 1 lb. of material from the liquid phase into the vapor phase**.**

Refrigerant- A **refrigerant** is a substance or mixture, usually a fluid, used in a heat pump and refrigeration cycle.
Refrigeration- The achievement of a temperature below that of the immediate surroundings

Saturation Temperature - That temperature at which a liquid starts to boil (or vapor starts to condense) The saturation temperature (boiling temperature) is constant at a given pressure, and increases as the pressure increases. A liquid cannot be raised above its saturation temperature. Whenever the refrigerant is present in two states (liquid and vapor) the refrigerant mixture will be at the saturation temperature.

Second law of thermodynamics: The Second Law of Thermodynamics states that heat will spontaneously always flow from a hot region to a cold region. By itself it never flows the other way, but can be made to do so under the influence of an external agency.

Sensible Heat - Heat that is absorbed/rejected by a material, resulting in a change of temperature.

Subcooling- At a given pressure, the difference between a liquid's temperature and its saturation temperature.

Superheat - At a given pressure, the difference between a vapor's temperature and its saturation temperature.

Ton of Refrigeration - The amount of cooling required to change (freeze) 1 ton of water at 32ºF into ice at 32ºF, in a 24 hour period.