

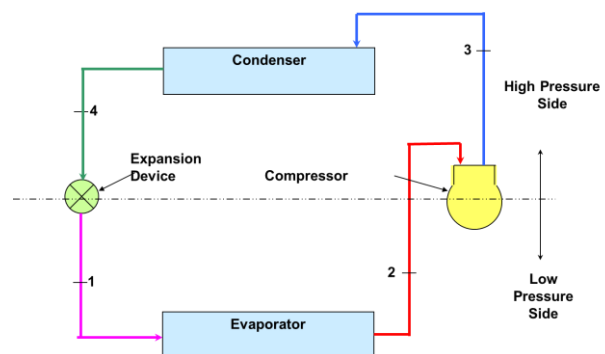
FAQ's

1. Define Refrigerant and list types of refrigerants used in air conditioning.

The refrigerant is a heat carrying medium which during its cycle in a refrigeration system absorbs heat from a low temperature system & delivers it to a higher temperature system. A variety of refrigerants are used in vapor compression systems. The choice of fluid is determined largely by the cooling temperature required. Commonly used refrigerants are in the family of chlorinated fluorocarbons, CFCs, also known as freons: R-11, R-12, R-21, R-22 and R-502.

2. Explain the Vapour compression cycle with diagrams.

Low pressure liquid refrigerant in evaporator absorbs heat and changes to a gas. During this process it changes its state from a liquid to a gas, and at the evaporator exit is slightly superheated. The superheated vapour enters the compressor where its pressure is raised. The temperature will also increase, because a proportion of the energy put into the compression process is transferred to the refrigerant. The high pressure superheated gas is cooled in several stages in the condenser. Liquid passes through expansion device, which reduces its pressure and controls the flow into the evaporator.



3. What is the role of Compressors in the air conditioning?

The low pressure & temperature refrigerant from evaporator is drawn into the compressor through the inlet or suction valve, where it is compressed to a high pressure & temperature. The high pressure & temperature vapor refrigerant is discharged into the condenser through the delivery or discharge valve.

4. What are the different types of Condensers? Explain any one type in detail.

The different types of condensers are, (i) Air cooled compressor and (ii) Water cooled compressor. Air cooled condensers eject heat to the outdoors and are simple to install. Most common uses for this condenser are in residential packaged air conditioning units.

5. Briefly describe about Receiver & Expansion valve.

Receiver: The condensed liquid refrigerant from the condenser is stored in a vessel, known as receiver, from where it is supplied to the expansion valve or refrigerant control valve.

Expansion Valve: The function of this valve is to allow the liquid refrigerant under high pressure & temperature to pass at a controlled rate after reducing its pressure & temperature. Some of liquid refrigerant evaporates as it passes through the expansion valve, but the greater portion is vaporised in the evaporator at the low pressure & temperature.