

Product Name : " DOMESTIC AIR CONDITIONING TRAINING KIT "
Product Code : " R.A.C 03 "



Description :

DOMESTIC AIR CONDITIONING TRAINING KIT:-

AIM:-

- Especially designed for educational and training purpose.

INTRODUCTION:-

Air conditioners and refrigerators work the same way. Instead of cooling just the small, insulated space inside of a refrigerator, an air conditioner cools a room, a whole house, or an entire business.

Air conditioners use chemicals that easily convert from a gas to a liquid and back again. This chemical is used to transfer heat from the air inside of a home to the outside air.

The machine has three main parts. They are a compressor, a condenser and an evaporator. The compressor and condenser are usually located on the outside air portion of the air conditioner. The evaporator is located on the inside the house, sometimes as part of a furnace. That's the part that heats your house.

The working fluid arrives at the compressor as a cool, low-pressure gas. The compressor squeezes the fluid.

This packs the molecule of the fluid closer together. The closer the molecules are together, the higher its energy and its temperature.

The working fluid leaves the compressor as a hot, high pressure gas and flows into the condenser. If you looked at the air conditioner part outside a house, look for the part that has metal fins all around. The fins act just like a radiator in a car and helps the heat go away, or dissipate, more quickly.

When the working fluid leaves the condenser, its temperature is much cooler and it has changed from a gas to a liquid under high pressure. The liquid goes into the evaporator through a very tiny, narrow hole. On the other side, the liquid's pressure drops. When it does it begins to evaporate into a gas.

As the liquid changes to gas and evaporates, it extracts heat from the air around it. The heat in the air is needed to separate the molecules of the fluid from a liquid to a gas. The evaporator also has metal fins to help in exchange the thermal energy with the surrounding air.

By the time the working fluid leaves the evaporator, it is a cool, low pressure gas. It then returns to the compressor to begin its trip all over again.

Connected to the evaporator is a fan that circulates the air inside the house to blow across the evaporator fins. Hot air is lighter than cold air, so the hot air in the room rises to the top of a room.

There is a vent there where air is sucked into the air conditioner and goes down ducts. The hot air is used to cool the gas in the evaporator. As the heat is removed from the air, the air is cooled. It is then blown into the house through other ducts usually at the floor level.

This continues over and over and over until the room reaches the temperature you want the room cooled to. The thermostat senses that the temperature has reached the right setting and turns off the air conditioner. As the room warms up, the thermostat turns the air conditioner back on until the room reaches the temperature.

TECHNICAL SPECIFICATION:-

The most common form of refrigerating installations is a refrigeration system with compressor. The physical effect of absorbing heat from the environment during transition from liquid to gaseous state of the refrigerant is used (evaporation enthalpy).

Specification

1 ton hermetic compressor - high back pressure, fan-cooled condenser, fan-cooled evaporator, thermostatic expansion valve, filter drier, liquid receiver, low pressure control, room thermostat, air filter, main circuit breaker, duplex receptacle, compressor start switch, pilot light, evaporator fan speed control, hardware kit, cold box, and courseware.

The unit is supplied with a mobile storage cabinet of code-gauge furniture stock steel with 4-inch swivel rubber-tired casters. The unit is charged with R-22 refrigerant.