

CHAPTER ONE

AIR CONDITIONER

Indoor climate, once adjusted to human need only by opening of heating in winter and by opening windows or using fans. In summer, is now capable of being varied to meet almost any comfort of industrial demand, anywhere on earth with precise automatic control.

With the introduction of air conditioner, the indoor air can be controlled through the blowing and sucking surrounding. Thus because of its comfort to man, need for air conditioning, Engineers, contractors, manufacturers and Technicians rising on a daily basis.

Now, consider for a moment the consequences which would result up all air conditioning systems were to stop. Not only would the temperature and humidity condition become into levable, but industrial production would be adversely affected and activities involving computers, electronics, air craft, precision manufacturing, nuclear power, optics and synthetics, in fact most areas of modern progress would come to a halt.

Today in business, industry, schools, hospitals, hotels, theatres and homes, air conditioner is no longer luxury but an essential part of modern living.

1.2 DEVELOPMENT OF AN AIR CONDITIONING INDUSTRY

The development of air conditioning industry is an interesting story, illustrating well necessity for close working relationship among scientific, engineering, productions and its beginning with mechanical refrigeration. In the late 1900s. but it was not until 1917, when Nillis, H carrier began to meet the challenges of designing suitable experiment. During the 1930s, the production of air-conditioning began and by firm scientific, engineering and production basis out with a limited market for its products.

THE AIM AND THE OBJECTIVE OF THIS PROJECT

The aim of choosing this project, is to put in order the damaged air conditioner in proper shape and better condition for effective usage.

To give wide knowledge of an air conditioner, types of operation and uses to the project group (student participating in the project).

Also to show the need to repair than to replace to or to purchase a new system.

It also serves as a reference to other students that are to do a similar project.

PRINCIPLE OF AIR CONDITIONER ARE REVERSED CARNOT CYCLE PRINCIPLE (REFRIGERATION CYCLE).

The air conditioner is related to the refrigeration, hence, both use the same principle of the reversed carnot cycle.

It is called the reversed carnot cycle because it operates in the opposite direction. In the carnot cycle, heat is received by the working fluid at a high temperature and rejected at a low temperature. Both processes are isothermal and also two isentropic processes. In this case, a net amount of positive work is done by the working fluid. this is the working of heat engines or heat pump or carnot cycle, positive work is done.

But cycles can be formed in which the reversed happens. In this case heat is added or received at a low temperature and rejected at a high temperature. By so doing, a net amount of negative work is done on the fluid. this for any refrigeration cycle, the process is made to remove heat from a space or substance to reduce its temperature and transferring that to another space or substance.

REPAIR OF AN AIRCONDITIONER IN MECHANICAL ENGINEERING DEPARTMENT

The complete project material is available and ready for download. All what you need to do is to order for the complete material. The price for the material is NGN 3,000.00.

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