



Class: 4th Stage
Subject: Control Lab
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(Control laboratory)

(closed loop control system of refrigerating and freezing unit)

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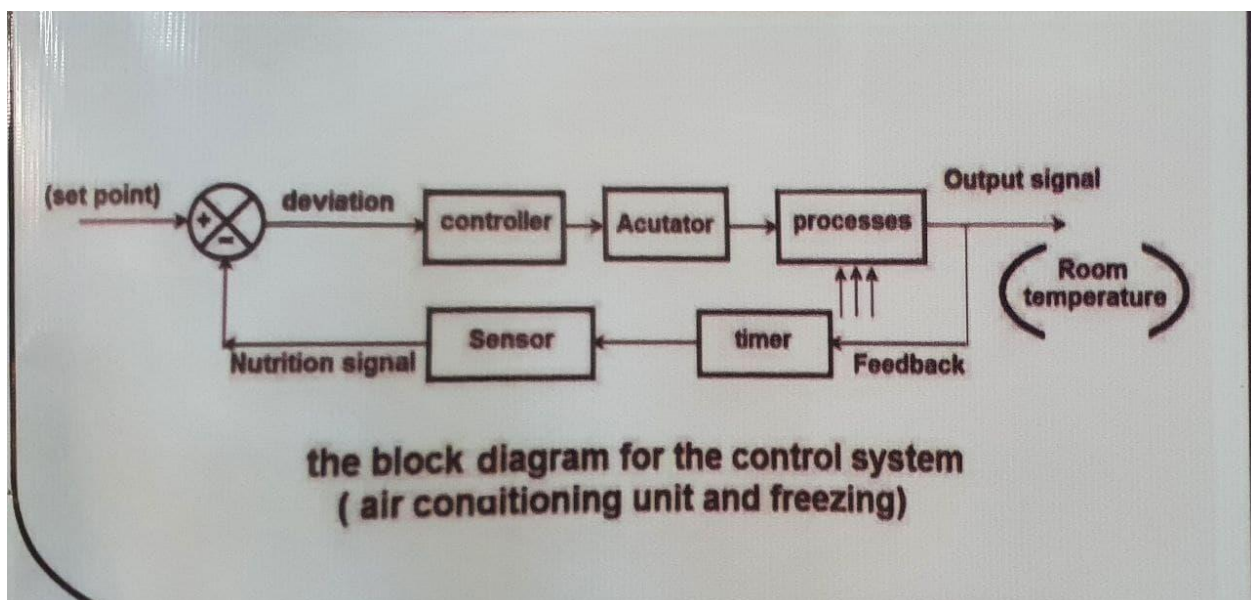


Training Object:-

- 1- To understand the control method of closed loop system.
- 2- The measurement, judging and working principles of the main components in the electric system.
- 3- Analysis on the control principle of the electrical system
- 4- How to connect to the peripheral circuit of the main electric components of heat pump air conditioner.

Trainer content:-

this system is similar to any refrigerating and freezing system used in cooling rooms such as those used in freezing meats for example. with defrosting circuit and few differences, and it work in three phase AC voltage due to the weight of the compressor.

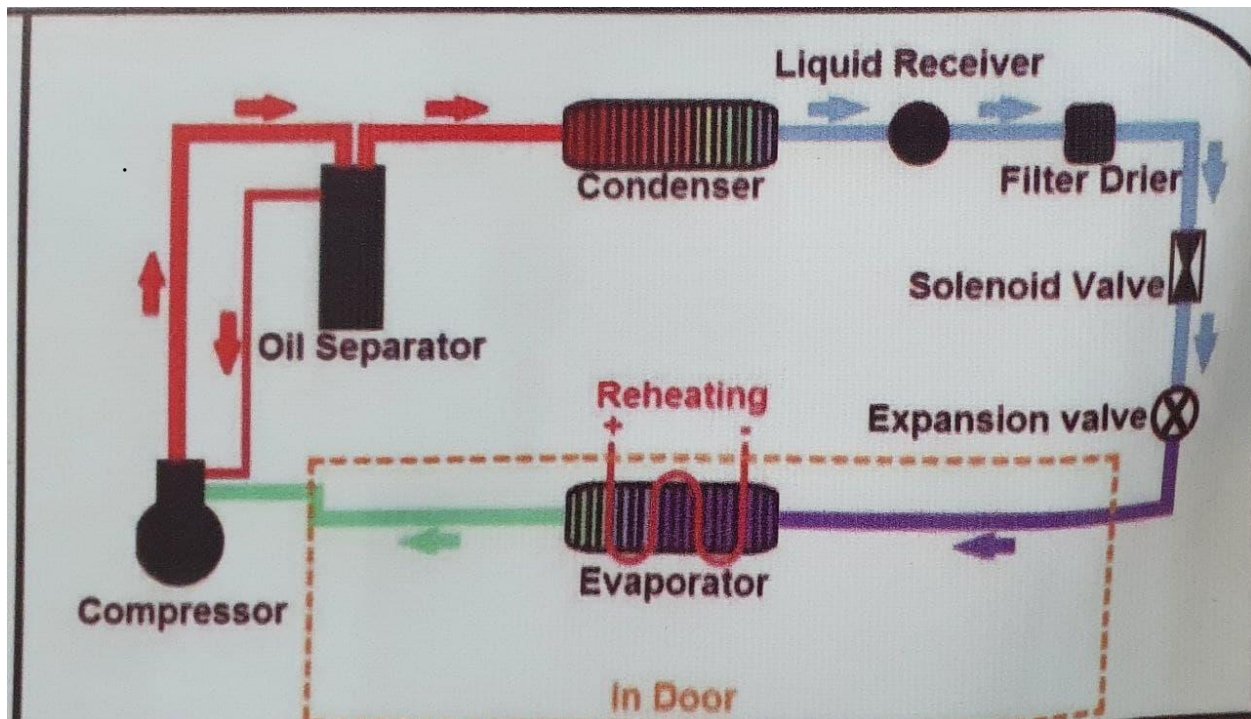




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Closed loop system as shown in the figure above can be applied on the trainer showing in the photo below





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This is the main control board

The process button on the auto operation

The sequence failure

The box which we can consider as
a freezing room





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Procedure.-

1. First of all we need to make setting to the sensors of the system which are 4 sensors. Setting operation be done from the monitor of the control board by pressing the set button (F1,F2,F3,.....) will appear and we will set them as we need the temperature in each sensor to be. with making (F4,F5,F6=0).
2. Checking the sequence relay with no alarm .
3. Making all the operation button on the auto process .
4. Turn the power button on .
5. Wait until the sensor in the inner box reach the setting point that you put, see what will happen?
6. Try to increase the temperature in the inner of the box, and see what will happen?

Discussion :-

Extract briefly how to set the temperature, and the working process of the system.