



ZM6109 Industrial Refrigeration Trainer



I Introduction

This trainer is designated for the study of industrial refrigeration whose main aim consists in controlling the temperature and relative humidity of one or more cold rooms. In this case a unique compressor and a unique condenser are used for two different cold rooms one for frozen products and the other for fresh products. This trainer is also conceived to identify and analyze the behavior of all the critical components of the cycle. User's attention is focused onto important issues concerning the balancing of valves and the keeping of constant operating pressures versus the external and internal load conditions.

Supply software which can monitor voltage, current, frequency, power, power factor, pressure, flow, etc, they can be displayed on PC in real time, and can print report.

II Training Program

- Plant starting and safely devices intervention checking
- Studying the operation of a thermostatic expansion valve and its calibration
- Studying the operation of an evaporating pressure controller and its calibration
- On-off control : Refrigerated room thermostat
- Correlation between evaporation temperature, room temperature and relative humidity in positive temperature rooms
- Analyzing the system behavior versus the variation of:
 - Thermostatic valve superheats
 - Condenser air flow
 - Evaporating pressure controller working point
- Using the refrigerant pressure -enthalpy diagram as work and diagnosis tool: plotting the refrigeration cycle
- Data acquisition and calculation of :
 - Heat balances corresponding to evaporator, condenser, compressor
 - Refrigerant mass flow
 - Volumetric compression efficiency and its trend versus compression ratio
 - Condenser exchange surface
 - Heat transfer coefficient between air and refrigerant in the condenser
 - Heat losses through the room walls

Supplied With:

General Refrigeration Manual
Experimental Handbook

Note :

Due to keeping innovation, the specification and Machine pictures or color are subject to alteration without notice!