LAB ENGINEERING

Email :
purchase@elabengineeringequipments.com
Phone: +91-9811375383

Product Name : Simple Compression Refrigeration Circuit	**Product Code :** AutomobileLab0069

Description :

Simple Compression Refrigeration Circuit

Technical Specification :

The trainer features a simple compression refrigeration system.

Evaporator and condenser have been designed as a pipe coil with each end immersed in a water-filled tank.

The water simulates the environment.

A thermostatic expansion valve serves as expansion element.

Two manometers indicate the two system pressures on the high and low pressure sides.

On an additional scale on the manometer (or Adding thermometers), the evaporation temperature of the refrigerant is indicated.

Two thermometers measure the temperature of the water in the tanks.

This allows for calculations of the amount of heat removed from the environment (evaporator, cold water) and added to the environment (condenser, hot water).

A sight glasses is provided to allow free visual inspection indicates the aggregate state of the refrigerant upstream of the expansion valve.

Learning objectives and Experiments:-

Introducing the main principle of operation of the refrigeration compression system.

Key components of a refrigeration system (compressor, evaporator, condenser, expansion element).

Relationship between the pressure and boiling point of a liquid Learning about the main factors that can affect the refrigeration system performance.

Operation of a refrigeration system / heat pump.

Investigating the main principle of the thermodynamics cycle.

Simple energy balance.

Instructional material.

The well-structured instructional material sets out the fundamentals and provides a step-by-step guide through the experiments.

Technical Specifications:-

Educational unit for providing a hand-on training of Apprenticeship for refrigeration.

Basic principles of refrigeration in a simplified model.

Common compression refrigeration system with compressor of piston type, evaporator and condenser (each in the shape of a pipe coil) and a thermostatic expansion valve.

2 manometers with temperature scale for the refrigerant show the values of the refrigerant on the high and low-pressure sides.

2 tanks filled with water combined with thermometer to indicate the cooling and heating effects.

Pressure switch to protect the compressor

Sight glass to monitor the aggregate state of the refrigerant

Used refrigerant, CFC-free.

Main Items of Circuit:-

Main switch

Pressure switch to protect the compressor

Evaporator in the shape of a pipe coil

Compressor

Receiver

2 water-filled tanks with 2 thermometer to demonstrate the cooling and heating effect

Condenser in the shape of a pipe coil

Sight glass (refrigerant) to monitor the aggregate state of the refrigerant

2 manometers with temperature scale for the refrigerant show the values of the refrigerant on the high and low-pressure sides

Expansion valve

Refrigerant R134a, CFC-free

Intake side (low pressure) pressure: (-1...13) bar temperature: -50...40°C

Delivery side (high pressure) pressure: (-1...25) bar temperature: -40...80°C

Thermometers: (-10...50°C)

Power: 230V, 50/60Hz, 1 phase

Water tanks: ? 1700mL

Model and Name of Manufacturer* of:

Main switch:- Hanyoung / LS

Pressure switch:- Danfoss

Compressor:- LG

Manometers:- Kimo

Expansion valve:- Danfoss

Stand:- Mounted on mobile frame with wheel

Accessories:-

Instructional material in English or Arabic: 1set / unit

Water tanks (stand by): 2piece/ unit

Thermometers (stand by):2piece/ unit

Maintenance Service / Customer Service Centers in Egypt

Thermometers (stand by):- 2piece/ unit