

COMPUTERIZED TRAINER FOR STUDYING THE HERMETIC COMPRESSOR

Mod. TCC/EV

INTRODUCTION

Only sophisticated instruments must be used to assess the quality of a compressor and analyze its characteristics. This trainer has been designed specifically for educational use so that students can also learn new techniques of data acquisition by the use of proper instruments and of a PC (supplied on demand), besides understanding the issues concerning compressors.

RE

TRAINING PROGRAM

- Plant starting and safety devices intervention checking
- Analyzing the system behaviour versus the variation of:
 - liquid expansion device
 - valve opening degree (when micrometric expansion valve is used)
 - air flow rate at condenser and/or evaporator
- Examining hermetic compressors and their characteristics
- Assessing the quality of a compressor
- Determining the power of a compressor
- Plotting the cycle in the refrigerant pressure-enthalpy diagram
- Data acquisition and calculation of:
 - heat balances corresponding to evaporator, condenser, compressor
 - refrigerant mass flow
 - ideal and actual EER
 - volumetric compression efficiency
- The software of the equipment carries out:
 - the heat balance of the refrigerating circuit
 - the system supervision with the display of the values detected by sensors



TECHNICAL SPECIFICATIONS

- Steel structure mounted on wheels, painted and treated in the oven
- Colour silk-screen-printed schematic diagram of the hydraulic circuit with warning LEDs
- Hermetic compressor
- Variable flow forced-air condenser and evaporator
- Liquid lamination devices: micrometric valve or capillary tubes
- Liquid separator, oil separator
- On-off valves, sight glass, dehydrator filter
- Valve for plant vacuum, refrigerant charging and recovering
- Pipes connecting the various components painted with different colours
- Transducers and sensors for detecting the following operating parameters: voltage, current, power factor, temperatures, cycle pressures
- High and low pressure gauges
- High and low pressure switches
- Thermomagnetic - earth leakage control button
- Emergency button
- PC control program

Power supply: 230 Vac 50 Hz single-phase - 470 VA
(Other voltage and frequency on request)

Dimensions: 180 x 80 x 180 cm

Net weight: 175 kg

REQUIRED

PERSONAL COMPUTER
- NOT INCLUDED -



SUPPLIED WITH

EXPERIMENTAL HANDBOOK

