



ZM6129 Computerized Heat Pump Trainer

Note :

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



I Introduction

This trainer has been designed specifically for educational aims: besides emphasizing the typical hydraulic, mechanical and thermodynamic aspects of all heat pumps, via a wide set of sensors, it can also acquire in real time all the data of refrigerant and air cycles and assess heat balances and efficiency, via a personal computer (demand) furthermore students can examine the use of an intermediate fluid for the transport of thermal or refrigerating power from the production site to the place of use. 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 safety devices intervention checking
Studying the operation of a heat pump
Studying the operation of a heat pump
Studying the operation on a cycle-reversing valve
Studying the operation of an electronic expansion valve
Proportional control
Examining the system behaviour versus the variation of :
- Season
- Air flow at condenser/evaporator
- Air flow at air/water exchanger
Plotting the refrigeration cycle on refrigerant pressure-enthalpy diagram
Data acquisition and calculation of:
Exchange surfaces
Heat balances corresponding to evaporator, condenser, compressor
Refrigerant mass flow
Volumetric compressor efficiency
Heat balance on water side
Manual Troubleshooting and plant operation reset

Supplied with :

English General air-conditioning manual
English Experimental handbook