



ZM6131 Automotive Air-Conditioning Trainer

I Introduction

Besides emphasizing vapour compression cycle this trainer can be used to describe all the problems due to the insertion of this cycle in the car since it has to adapt to hostile very hot, moving, vibrating environment that generates variable power mechanical energy.

II Training Program

Plant starting and safety devices intervention checking
 Studying the operation of an automotive air conditioner
 Studying the operation of an expansion valve
 ON-OFF control: condenser fan automatic control
 Examining the system behaviour versus the variation of
 - Engine r.p.m
 - Air flow at the condenser and/or evaporator
 Plotting the refrigeration cycle on refrigerant pressure-enthalpy diagram
 Data acquisition and calculation of
 Heat balances corresponding to evaporator, condenser, compressor
 Refrigerant mass flow
 Ideal and actual E.E.R.
 Volumetric compressor efficiency
 Thermostatic valve superheat
 Heat balance on air side

III Technical Specification

Steel structure mounted on wheels, painted and treated in the oven
 Colour silk- screen-printed schematic diagram, with warning LEDs
 Open-type compressor provided with pulley transmission
 Speed control motor
 Driving belt
 Automotive air conditioning unit
 Forced-air condenser controlled by pressure switch
 Expansion valve
 Valve for plant vacuum, refrigerant charging and recovering
 Pipes connecting the various components painted with different colours
 Anti-vibration joints on the pipes connected to the motor water pump
 Boiler for hot water production
 Full set of instruments for data acquisition, including:
 High and low pressure gauges
 Electronic thermometers with pt 100 probes to be inserted in various test points along the hydraulic circuit
 Digital multimeter
 r.p.m counter
 Double pressure switch for enabling condenser fan
 Pressure switch
 Thermomagnetic-earth leakage control button
 Emergency button
 Dimensions : 180x80x180cm
 Net weight : 261 kg



Supplied with :

English general air-conditioning manual
 English experimental hand book

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

PT. Valtekindo Global Intertek

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