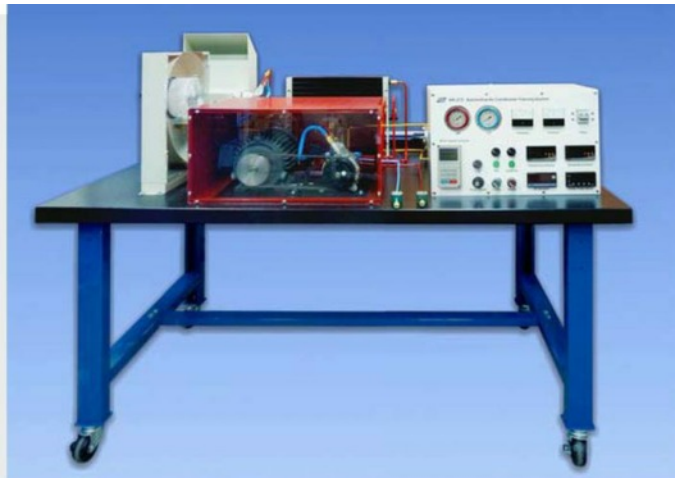
KR-270

Gépkocsi légkondicionáló remdszer gyakorló készülék



The structure of KR-270 is based on a real air conditioner of an automotive system. The evaporator is protected by plastic acrylic so that students can easily observe the internal structure of the evaporator. It also allows students to safely observe how fan door switches the function of air conditioner between cooler and heater when the system is operating.
The system adopts a three phase motor with varied speed to simulate the function of the engine so as to drive the air compressor. The circulating water originally heated by hot engine for heater appli-cation is completed by an integrated heating coil.

Features

1. Understanding the principle of automotive air condition system
2. Understanding the components in an automotive air condition system
3. Understanding the difference between automotive air condition system and building air condition system

Specifications

1. Compressor
   (1) Source: DC 12V
   (2) Refrigerant : R-134a
2. Motor
   (1) Input voltage: from motor speed controller
   (2) Output power: 1.5 KW
3. Motor Speed Controller (Inverter)
   (1) Input voltage: AC 220V/1.5KW, 50Hz/60Hz
   (2) Output voltage: 3Ø 220VAC, 270KVA
4. Condenser
   (1) Cooling type: forced cooling
   (2) Structure type: flat tube
   (3) Fan power: 12 VDC
   (4) Fan size: 14"
5. Evaporator
   (1) Cooling type: direct expansion
   (2) Structure type: laminated
   (3) Fan power: 12 VDC
   (4) Fan size: 6"
6. Refrigerant Controller
   (1) Type: thermostatic expansion valve
   (2) Structure type: combined
7. Service Valve
   Low pressure service: 3/8" or 1/4" charging valve
8. Pressure Gauge
   (1) Material: steel
   (2) Unit: Psi & kg/cm2
   (3) Oil filled type
9. AC Voltmeter: range 0~300V
10. AC Ammeter: range 0~20A
11. Digital Display
    (1) 5 channels temperature display x 2
    (2) 1 set temperature display : 0~200°C
    (3) Watt digital meter: 0~2KW
    (4) ACA digital meter: 0~10A
    (5) DCA digital meter: 0~10A
12. Plate Heat Exchanger
    (1) Design pressure: 3MPa
    (2) Design temperature: -196°C/+200 °C
    (3) Heat exchange area: 1.080 m2
13. Water Pump
    Max. Capacity: 16 L/min /19 L/min, 2.4m/3.4m
14. Water Tank: 130(W) × 400(D) × 300(H) mm
15. Dimension: 1800(W) × 900(D) × 1500(H)mm ±10%

Experiments

1. Motor speed and refrigerating capacity experiment
   Understanding motor speed and refrigerating cycle of every index related
2. Hot water coil exchange performance experiment
   (1) Learning water circle process and water pump performance
   (2) Learning hot water coil exchange performance
3. Maximum warm air capacity test
   (1) Understanding the change of the air property after being warmed up by the coil
   (2) Understanding the heat exchange performance of the hot water coil
4. Automotive air conditioner mix and warm air capacity experiment
   (1) Learning the standard process of dehumidifying the air
   (2) Learning the dehumidification capacity difference during the progress of air processing
5. The heat recover capacity experiment
   (1) Learning plate heat exchanger structure
   (2) Calculating benefit from plate heat exchanger
6. Plate heat exchanger performance experiment
   (1) Learning plate heat exchanger feature
   (2) Learning the difference of choosing plate heat exchanger or not
7. Compare the consumption power between the heat recover by theplate heat exchanger and electric heat

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