



KR-212

Single-Split Type Cooling / Heating Air Conditioner Training System



Due to its lower level of indoor noise and high flexibility of installation, Split Type Air Conditioner becomes more and more popular in nowadays. KR-212 itself is a real split type air conditioner especially designed for teaching purpose. Both indoor and outdoor units are installed on the demonstration stand so students can learn the operating principle of both units at the same time. User can easily observe and record the behavior of both units while running under different setup by remote controller such as temperature, fan speed, or operating mode (cooler, heater, dehumidifier...)

Four valves are intentionally designed to be located at the front panel of the demonstration stand to allow students handily install the connection pipes (gas pipe and liquid pipe) between indoor and outdoor units. This helps students further to realize how Indoor and Outdoor Units cooperate with each other as well as to understand the refrigerant path during its circulation cycle.

Students can use the built-in gauges/meters and additional measurement tools to record the experimental data and further to draw the Psychrometric Chart and Mollier Diagram so as to understand the performance of this air conditioner.

► Features

- The operation of the system is based on a real split-type air conditioner including one indoor unit and one outdoor unit installed on a same stand.
- The system can be operated as either cooler or heater modes.
- Provide 4 fixing valves at the front panel to enable students handily install the connection pipes (gas pipe and liquid pipe) between indoor and outdoor units.
- Provide voltmeter and ammeter at the front panel to monitor instant system power.
- Provide high and low pressure gauge at the front panel to monitor instant inlet/outlet pressure of the compressor.
- Both indoor and outdoor units are powered by an isolated power supply with overload protection.
- The circuit diagram of the system and a Mollier Chart are clearly printed on the front panel for quick reference.
- Both indoor unit and outdoor unit are installed on an aluminum stand with wheels for easy movement.

► Specifications

- 1. Compressor**
 - a. Power source : 220VAC, 50/60Hz
 - b. Cooling capacity : 3.5KW
 - c. Refrigerant : R-410A
- 2. Condenser**
 - a. Cooling type : Forced cooling
 - b. Pipe size : Input 3/8", output 3/8"
- 3. Evaporator**
 - a. Cooling type : Direct expansion
 - b. Pipe size : Input 1/4", output 1/2"
- 4. Refrigerant Controller**
 - a. Type : Capillary tube
 - b. Size : 3Ø(mm)
- 5. Filter and Drier**
 - a. Liquid & service : 3/8"
 - b. Output : 3Ø(mm)
- 6. Three Way Service Valve**
 - a. High pressure service : 1/4"
 - b. Low pressure service : 1/2"

7. High Pressure Gauge

- a. Size : 67Ø (mm)
- b. Range : 0 ~ 70kg/cm²

8. Low Pressure Gauge

- a. Size : 67Ø (mm)
- b. Range : 0 ~ 30Kg/cm²
0 ~ 76cmHgVac (29.92inHgVac)

9. AC Voltmeter

Range : 0 ~ 300V

10. AC Ammeter

Range : 0 ~ 20A

11. Power Source

220VAC, 50/60Hz

12. Dimension

1140(W)×810(D)×1522(H)mm(±10%)

► Experiments

1. Learning components in split type air conditioner
2. Installation of split type air conditioner
3. Measuring and collecting experimental data
4. Drawing Mollier Chart
5. Application of Psychrometric Chart
6. System fault determination
7. Calculating system performance
8. Analysis and discussion

