KRC-10 **VAPOUR COMPRESSION REFRIGERATION AND HEAT PUMP TRAINER**

KITEK Vapour Compression Refrigeration and Heat Pump Trainer Model KRC-10 is designed to provide students with a thorough understanding of various types of systems used in commercial and industrial applications. It permits students to understand the refrigeration cycle, including measurement of pressure, vacuum, flow rate and temperature. It is a mobile type training equipment, frame made of aluminum profile with castor wheel installed. Clear ergonomically mimic diagram consists of refrigeration and heat pump cycle diagram, digital thermometer, voltmeter, ammeter and pressure gauge incorporated. The unit contains a reversing valve so that the system may be run as a heat pump in addition to operation as a refrigeration system.

Sight glasses at inlet and outlet of evaporator and condenser allows students to monitor changes in refrigerant state. The system components are panel mounted to provide easy access for testing and troubleshooting.

Optional 'Data Acquisition Software' & related interface and sensors available

List of Experiments

- Study of operating principal of refrigeration & heat pump cycle.
- Open type compressor driven by DC motor / dyanometer to measure input brake horse power.
- Determine the COP of refrigeration & heat pump cycle.
- Using heat pump cycle to defrost the evaporator.
- Troubleshooting of refrigeration cycle failure symptom and caused.
- Energy balance at evaporator and condenser using water cooled heat exchanger.
- Calculation of the motor power via speed and torque.
- Investigation on the operation of the compressor.
- Familiarization with the operating of metering devices, for instance, thermostatic expansion valve.
- Study on the principles of evaporator and condenser – superheating and sub cooling, heat exchanger.
- Investigation of refrigeration system.
- Study the thermal dynamic heat balance.

TECHNICAL SPECIFICATIONS

- **Compressor**
  - Open type compressor : 0.75kw
  - Refrigerant : R-22
  - Voltage : 240 Vac
  - Driven by DC motor with variable speed drive.

- **Condenser & evaporator**
  - water cooled type heat exchanger.

- **Control devices**
  - Low pressure switch
  - High pressure switch
  - Back pressure regulator
  - Capillary tube
  - Automatic expansion valve
  - Solenoid valves

Note : Specification & Photos can be altered without notice in our constant efforts for improvement

- Thermostatic controller
- Refrigerant Flow Meter
- Wattmeter, Voltmeter, Ammeter
- Thermometer

- **Safety features**
  - Safety pressure switch
  - Main breaker switch
  - Compressor breaker switch

- **Evaporator**
  - Air Cooled Type
  - Water Source Type

- **Option:** 'Data Acquisition Software' & related interface and sensors available.

- **Scope of Delivery**
  Operating instructions, Student experiment book, and Teacher's answer book.

Note : Specification & Photos can be altered without notice in our constant efforts for improvement