

Product Name :
Air-Conditioning Trainer

Product Code :
TK149



Description :

Air-Conditioning Trainer

Technical Specification :

Air-Conditioning Trainer

This training unit allows students to investigate air conditioning at a basic level. Students can use pressure enthalpy and psychometrics charts for their calculations and discover the enthalpy change.

The unit features an air-cooled condenser unit connected to an evaporator located in an air duct. The air duct contains relative humidity and temperature sensors on both sides of the evaporator. A small fan provides air flow down the duct and air flow rate can be manually adjusted.

The refrigeration circuit features high and low pressure gauges, a pressure switch, sight glass, filter dryer and TEV valve. The circuit also includes pressure transducers that connect to the instrumentation.

Four thermocouples placed around the refrigeration circuit allow observation of temperatures, these can be used for the calculation of potential super heating and sub-cooling.

Features Versatile Data Acquisition System Onboard for data acquisition via USB cable (supplied) to a computer

Operating Conditions

Operating environment:

Laboratory

Storage temperature range: -25°C to $+55^{\circ}\text{C}$ (when packed for transport)

Operating temperature range: $+5^{\circ}\text{C}$ to $+30^{\circ}\text{C}$

Operating relative humidity range: 80% at temperatures Sound Levels

Within 20 cm of the fan 75 dB

40 cm away from the fan, less than 70 dB(A)

Essential Services

Bench space needed:

1020 mm (wide) x 600 mm (deep)

Electrical supply:

Single phase

Single phase, 220 - 240 VAC, 50 Hz, 2 A OR

Single phase, 110 - 120 VAC, 60 Hz, 4 A OR

Single phase, 208 - 220 VAC, 60 Hz, 2 A

Versatile Data Acquisition System software

PC running Windows 7 or newer, required Versatile Data Acquisition System software

Net dimensions and weight:

1020 mm wide x 600 mm front to back x 905 mm high and mass 70 kg

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