Computerized Re-Circulating Type Air Conditioner Trainer (Product Code: RACC02)

Features

- Extensive range of Experiments
- Mobile unit.
- Major components utilized are of standard industrial practice.
- Low capital cost.
- Comprehensive modern instrumentation.

Product Description

This machine simulates both industrial and domestic air conditioning practice and includes variable temperature and humidity control systems. Students can investigates and evaluate all the effects likely to be met in an air conditioning plant.

The test rig is portable trolley mounted, hosed on a MS frame tube with front panel, surrounded by a transparent “c” duct were the air is allowed to re-circulate. Wet & dry bulbs are provided at suitable points inside the duct. The evaporator is air-cooled type, which is placed inside the duct.

A small steam generation unit is provided for humidification and cooling provided for de-humidification. The panel consists of all the necessary instruments and components like voltmeter, ammeter, and temperature inductor energy meter Rota meter, pressure/compound gauges, and LP/HP cutout. The unit is fitted with a flow diagram that illustrates the constructional and operational features.

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Product / Component Specification

Duct with fan	Duct (transparent at front)
Condenser	Air cooled
Condenser cooling fan	1/10 HP
Refrigerant	R22
Expansion device	Capillary Tube
Rota meter	0.4 to 4 LPM (eureka or equivalent)
Humidifier	Steam generator
Hand shut off valve	¼" & 3/8"
Energy meter	10 – 20 Amps (BHEL or equivalent)
Finned heater	Standard
Wet & dry bulb	5 No's standard
Digital voltmeter	0 – 300 Volts AC
Digital ammeter	0 – 10 Amps AC
Digital temperature indicator	-50 to +150
Thermocouple	K type (CR/AL)
DP switch for mains	15 Amps
Evaporator	Air cooled
Filter /drier	Indfoss or equivalent
Solenoid valve	Indfoss or equivalent
Pressure/Compound gauges	Indfoss or equivalent
Thermocouple selector switch	Standard
LP/HP cutout	Indfoss or equivalent or equivalent
Thermostat	Indfoss
Stop watch	Electronic

Data Acquisition Card

Analog Input	
Differential Channels	12
Resolution	12 bits
Sample Rate	200 Ks/s
Max Voltage	5 V
Number of Ranges	4
Simultaneous Sampling	Yes
On-Board Memory	5120 samples
Analog Output	
Channels	2
Digital I/O	
Input-Only Channels	30
Output-Only Channels	12
Timing	Software
Logic Levels	TTL
Maximum Input Range	0 V - 5V
Maximum Output Range	0 V - 3.3 V
Counter/Timers	
Counters	2
Max Source Frequency	84 MHz
Resolution	12 bits
Logic Levels	TTL
Total DC output Current on all I/O lines	130mA

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