Computerized Vapour Compression Refrigeration Test Rig (Product Code: RACC04)

Features

- Extensive range of Experiments
- Comprehensive facility for complete investigation of refrigeration cycle.
- Major components utilized are of standard industrial practice.
- Low capital cost.
- Comprehensive modern instrumentation.
- Rapid start-up for effective use of laboratory time.

Product Description

This test rig is used to great advantage when introducing students to the Vapour compression refrigeration cycle. The test rig is portable trolley mounted, hosed on a MS frame tube with wooden platform & front panel, finished by lamination to give elegant finish.

The panel consists of all the necessary instruments and components like voltmeter, ammeter, and temperature inductor energy meter Rota meter, thermostatic expansion valve, solenoid valve, pressure/compound gauges, and LP/HP cutout, the platform consists of compressor, fan, condenser and the evaporator is made of copper coil wrapped around a stainless steel vessel and insulated and housed in a wooden chamber.

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Product / Component Specification

Hermetically sealed compressor	1/3 HP (Tecumseh or Kirloskar or equivalent)
Air cooled condenser	12” x 13” x 2 rows
Fan motor with blade	1/83 HP
Expansion device	Capillary
Refrigerant	R12
Rota meter	6 to 60 LPH (eureka or equivalent)
Hand shut off valve	¼” (7 No’s)
Energy meter	5 – 10 Amps (BHEL or equivalent)-2 No’s
Thermostat	Freon 12 (Danfoss or equivalent)
Digital ammeter	0 – 10 Amps AC
Digital temperature indicator	-50 to +150
Thermocouple	K type (CR/AL)
DP switch for mains	15 Amps
Evaporator coil	Copper
Filter drier	Danfoss or equivalent
Solenoid valve	Danfoss or equivalent
Pressure/Compound gauges	Danfoss or equivalent
Thermocouple selector	Standard
LP/HP cutout	Danfoss or equivalent

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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