Computerized Ice Plant Test Rig (10 KGS/Day) (Product Code: RACC01)

Features

- Extensive range of Experiments
- Mobile unit.
- Major components utilized are of standard industrial practice.
- Low capital cost.
- Comprehensive modern instrumentation.
- Control console incorporating instrumentation schematic for complete operation.

Product Description

This test rig is used to great advantage when introducing students to the Vapour compression refrigeration cycle for making ice with brine. The test rig is portable trolley mounted, hosed on a MS frame angle with front panel consists of all the necessary instruments and components like voltmeter, ammeter, temperature indicator, energy meter, pressure/compound gauges, and LP/HP cutout.

The ice plant consists of a MS tank with fiber glass-coated in the interior surface & copper coils of 12mm Dia, which forms the evaporator.

The outer of MS tank is coated with bitumen & insulated with thermo coal and placed in a wooden box and finished with laminated sheets.

The unit is fitted with a flow diagram that illustrates the constructional and operational features. The compressor is suitably located with the condenser, condenser fan motor and Rota meter. Electrical stirrer is provided to stir the brine solution in the icebox. G.I ice cans are provided along with the machine.

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Product / Component Specification

Hermetically sealed compressor	1/2 Ton (Tecumseh or Kirloskar or equivalent)
Ice cans	G.I material
Condenser	Air cooled
Condenser cooling fan	1/10 HP
Expansion device	Thermostatic
Rota meter	6 to 60LPH (eureka or equivalent)
Stirrer	½ HP (Remi or equivalent)
Hand shut off valve	¼" & 3/8"
Energy meter	5 – 10 Amps (BHEL or equivalent)
Thermostat	Indfoss or equivalent
Brine	50 Kgs
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	Coiled type (copper)
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
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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