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

## 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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