

MINI COLD STORAGE PLANT TEST RIG (EE-1609)

The Mini Cold Storage plant Test rig works on simple vapour compression refrigeration cycle and uses R22 as a refrigerant. It is environment friendly. The experimental Mini Cold Storage plant test rig consist of a compressor unit, condenser, cooling chamber, controlling devices and measuring instruments those are fitted on a stand and a control panel. Hermetically sealed compressor is fitted on stand with the help of flexible foundation bolts to minimize vibrations. The system is fabricated such that students can observe and study vapor compression cycle, its component principle & working. The arrangement of parts such that, all the parts are visible and working can be easily understood.

SCOPE OF EXPERIMENTATIONS:

- To study about the Cold Storage plant.
- To study about the vapor Compression Cycle.
- To determine the coefficient of performance of Mini Cold Storage Plant Test rig.

UTILITIES REQUIRED:

- Electricity 220V AC, Single Phase.
- Space required: 2 x 2 m.

**TECHNICAL SPECIFICATIONS:**

- | | | |
|-----------------------|---|--|
| ▪ Compressor | : | Hermetically sealed (1/2 Ton), Standard make |
| ▪ Storage Room | : | 3 Ft x 3 Ft x 3 Ft with double wall insulated. Suitable small door for the cold storage. |
| ▪ Expansion Device | : | Capillary Tube |
| ▪ Evaporator | : | Air cooled condenser made out of copper & fins of matching capacity with fan for cooling. |
| ▪ Evaporator fan | : | Axial flow type(standard make) |
| ▪ Refrigerant | : | R22 Type |
| ▪ Drier, Filter | : | Standard Make |
| ▪ Pressure Indication | : | 2 No.s dial type pressure gauges. One fitted at suction side and another at discharge side |
| ▪ Temperature Sensors | : | RTD PT-100 type (6Nos.) |
| ▪ Control panel | : | Digital Voltmeter: 0-300 Volt. |
| | : | Digital Ammeter: 0-2 Amp. |
| | : | Digital Temperature Indicator: 0-300°C (With multichannel switch) |
| | : | On/Off switch, Mains Indicator etc |

- The whole set-up is well designed and arranged on a good quality painted structure.