

WINDOW AIR CONDITIONING TEST RIG

The Window Air Conditioning Test rig works on simple vapour compression refrigeration cycle and uses 134a as a refrigerant. It is environment friendly. The experimental Window Air conditioning test rig consist of a compressor unit, condenser, cooling chamber, Capillary expansion controlling device and measuring instruments those are fitted on a stand and a control panel. 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 Window Air conditioning test rig.
- To determine the coefficient of performance of Window Air conditioning Test rig.

UTILITIES REQUIRED:

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



TECHNICAL SPECIFICATIONS:

- Refrigeration system : Cooling capacity (450 watt at rated test condition (0.3 TR))
 - Compressor : 1/2 HP, Hermetically sealed, Standard make
 - Condenser : Forced convection Air cooled
 - Condenser fan : Axial flow type (Standard make)
 - Expansion Device : Capillary Tube
 - Evaporator : Forced convection Air cooled type
 - Evaporator fan : Axial flow type (standard make)
 - Refrigerant : R22 Type
 - 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.