



EIE INSTRUMENTS PVT. LTD.
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WINDOW AIR CONDITIONING TEST RIG-



List of Experiments :

- To study various components and controls used in window air conditioner.
- To evaluate the tonnage capacity of the air conditioning system by enthalpy difference method.
- To evaluate actual & theoretical c.o.p. of vapor compression cycle.
- To plot actual refrigeration cycle on p-h chart.

Purpose :

The Window AC test rig is designed and manufactured such that the students can understand construction and working of a window type air conditioner and conduct the trial on it to evaluate performance of the same.

Details :

The window AC is fixed in a rigid angle frame, with its cover cut half open to reveal the internal parts of the AC. The required pressure and temperature tapings are drawn for measurement of pressures and temperatures at salient points. Energy meter is provided for recording compressor energy consumption. A sling psychrometer is provided for measurement of inlet and outlet Dry-bulb & wet bulb temperature. With the help of manometer, velocity of air and consequently the flow rate of air can be determined.

Technical Specification

•Capacity	: 0.75 TR at rated test conditions
•Compressor	: Rotary type; Hermetically sealed.
•Condenser	: Forced convection air cooled
•Condenser fan	: Axial flow type.
•Evaporator	: Forced convection
•Evaporator fan	: Axial flow type.
•Drier/ filter	: Molecular sieve type.
•Expansion device	: Capillary Tube
•Accumulator	: Copper / M.S. shell suction line accumulator provided.

•Refrigerant	: R-22
•Sling Psychrometer	: For air temperatures & Digital Indicator for refrigerant temperatures.
•Velocity	: By inclined tube manometer
•Pressure Gauges	: At suction & discharge
•Supply	: 220-240 Volts, 50 Hz, 1 phase
•Input power	: 1.2 Kw
•Rated current	: 8.0 Amps
•Energy Meter	: Provided for compressor
•Panel	: manufactured from 1.2 mm thick CRCA
•Outer finish	: Powder coating
•Size	: 650 x 600 x 1165 mm (L X D X H)

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