



The unit consists of ducting fitted with various air conditioning components. Airflow is generated by an axial flow fan and in the airflow, heaters, cooling coil and steam humidifier connection is provided. Cooling circuit consists of a hermetic compressor; air cooled condenser, thermostatic expansion valve and evaporator (i.e. cooling coil). Measurements of various parameters Turn cooling cycle and heating cycle are provided and students can easily visualize and understand the basic principles of air conditioning.

### Specifications

- Cooling circuits – It consists of:
  - a) Emerson compressor, having the capacity of 1 ton of refrigeration (approx.) using R-22 refrigerant.
  - b) Rotameter for liquid refrigerant flow measurement.
  - c) Pressure gauges for high and low pressure.
  - d) Prescott (i.e. high and low pressure cut-out).
  - e) Thermometers for temperature measurement at various points In the cycle.
  - f) Energymeter for compressor input measurement.
  - g) Digital Voltmeter and Digital Ampere meter for equipment input measurement.
- Heating Circuit – Air heaters with input control provided with energymeter for input measurement. Maximum heating capacity 1-2 Kw.
- Steam generator or Boiler and injector for humidification of air. All above components are connected to a duct of size 220mm. X 320mm. in which airflow is generated by axial flow fan.
- Anemometer for measurement of air velocity, (range 0-15 m/sec. Following experiments can be conducted on the unit (Optional)
  - a) Cooling of atmospheric air.
  - b) Heating of atmospheric air.
  - c) Humidification of atmospheric air.
  - d) Dehumidification and heating of atmospheric air.(Cooling coil acts as dehumidifier at reduced airflow.)

### Required

#### Electric supply

Single Phase, 220 VAC, 50Hz, 5-15 Amp socket with earth connection.

Note: Specifications are subject to change.

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