



Features

- Mobile, compact, comprehensive, sturdy design
- Fully instrumentation for experimentation of air conditioning process study
- Direct reading of temperature, voltmeter, and ammeter measurement.
- Demonstration of heat transfer through composite wall apparatus.
- Fault Trainer as optional attachments

System Description

Tesca Thermal Conductivity through Metal Bars Apparatus consists of a test material bars viz. Brass & stainless steel whose one end is heated by an electrical heater and the other end is kept in a cooling water chamber which acts as heat sink. The test section i.e. intermediate of the bar is well insulated within a shell of asbestos powder to minimize the radial heat loss. Separate thermocouples have been provided to measure the radial heat loss. Two separate radial specimens with an arrangement of a central heater and ring heater to be sandwiched between them have been provided. A heat sink is provided with water circulation arrangement. This setup is properly insulated 'Tesca' has design the system having features of ease to operate; demonstrated & perform requisite experiments

List of Experiments

- To study the heat distribution along the length of the bar.
- To determine the thermal conductivity of given specimens.
- To Study the variation of thermal conductivity of the material with temperature.

Note: Specifications are subject to change.

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System Components

- Water jacket – 100mm Dia x100 mm Long M.S.Pipe.
- Digital stopwatch.
- Digital Temperature Indicator with Thermocouples (0-400°C) Or RTD (PT-100) – 8 channel.
- Heater controller - Variac 2 A/Dimmer stat.
- Digital voltmeter, Ammeter.
- Base frame – Made up of ms & duly painted.
- Control Panel - for mounting of all indicators.
- Electrical switches & wiring
- Safety instrument - MCB.
- Test specimens of brass & stainless steel
- Insulating powder shell
- Heat sink
- Heaters (two types)
- Heater sinks (two types)
- Radial specimen of brass discs
- Water Pump

Optional Accessories

- Data logging software
- Provision to change the test specimen.

Operation & Maintenance Manual

- Self-explanatory operating & maintenance manual will be provided. This will include Theory, operating procedure, standard results, and maintenance procedures.

Services Required At Site

- Electric Supply 220V-240V 50Hz. With proper earthing
- Tap Water supply & drainage