



### 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.

### Tesca Technologies Pvt. Ltd.

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension,  
Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,  
Tel: +91-141-2771791 / 2771792; Email: info@tesca.in, tesca.technologies@gmail.com  
Website: www.tescaglobal.com

### 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