



### Features

- Complete instrumentation for study of Linear Heat Transfer phenomenon.
- Direct reading of Temperature, Voltage, Current.
- Optional Computerized Data Acquisition System.

Tesca Linear Conduction Heat Transfer has been designed for students to study the phenomena of Linear Heat Conduction. The setup consists of a Heating Section, Cooling Section & Specimens of different metals. The specimens can be fitted in between Heating & Cooling section. Test specimens of same metal or different metals can be clamped in between the heating & cooling sections.

Temperature sensors record the surface temperature along length of the specimen. Instruments are provided to measure the Temperatures, Power Input to heater & Cooling Water Flow rate.

Detailed Operation & Maintenance Manual is provided along with the trainer.

### Specifications:

- Power Supply with power regulator
- Heating Section: MOC Brass, 25 mm Dia, fitted with Cartridge type Heater Capacity – 100 W.
- Cooling section: MOC Brass, 25 mm Dia, with cooling water jacket.
- Test Specimen:
  - Brass section of 25 mm diameter and fitted with two thermocouples at the same intervals.
  - Stainless steel section of 25 mm diameter.

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

- Aluminium section of 25 mm diameter
- Brass section reduced in diameter to 13mm
- Steel Frame
- Thermocouple sensors
- Temperature Indicator
- Variable Area water flow meter
- Digital Voltmeter
- Digital Ammeter

### Experiment Capabilities

- Understanding the Fourier rate equation in determining the rate of heat flow through solid materials
- Measuring the temperature distribution for steady state conduction of energy through a uniform plane solid and a composite plane solid
- Determine the constant of proportionality (thermal conductivity) of different materials (conductors and insulators)
- Measuring the temperature drop at the contact face between adjacent layers in a composite plane solid
- Measuring the temperature distribution for steady state conduction of energy through a plane solid of reduced cross sectional area
- Understanding the application of poor conductors (insulators)
- Observing unsteady state conduction (qualitative only)

### Services Required

- Electric Supply 230 V AC, 16 A, Single Phase, Earthed.
- Tap water supply & drainage