



## DESCRIPTION

The experimental set up consists of metal bar, one end of which is heated by an electric heater while the other end of the bar projects inside the cooling water jacket. A cylindrical shell filled with insulating material surrounds the middle portion of the bar. The temperature of the bar is measured at different sections. Heat Input to the heater is given through variac. By varying the heat input rates, data can be obtained. Water at constant rate is circulated through the jacket and its flow rate and temperature rise is noted

## EXPERIMENTATION:

- Ø To plot the temperature distribution along the length of Bar.
- Ø To determine the thermal conductivity of given bar at various temperatures.

## UTILITIES REQUIRED:

- Ø Continuous Water supply @2LPM at 0.5 Bar
- Ø Floor Drain.
- Ø Electricity Supply: 1 Phase, 220 V AC, 2 Amp.
- Ø Table for set-up support.

## TECHNICAL DETAILS:

- Ø Metal Bar  
Material : Copper  
Length : 400 mm (approx.)  
Diameter : 25 mm
- Ø Insulating shell  
Length : 250 mm  
Diameter : 200 mm
- Ø Cooling Water Jacket  
Diameter :100 mm  
Length : 75 mm
- Ø Heater :Nichrome Wire.
- Ø Water Flow measurement : By Measuring cylinder
- Ø Control panel comprising of  
Digital Voltmeter : 0-300 Volt.  
Digital Ammeter : 0-2 Amp.  
Variac : 0-230 V, 2 Amp.  
Digital Temp. Indicator : 0-199.9<sup>0</sup>C, with multi-channel switch
- Ø Temperature Sensors :RTD PT-100 type. (8 Nos)  
With standard make on/off switch, Mains Indicator etc.
- Ø Instruction Manual : An ENGLISH instruction manual will be provided along with the Apparatus

*Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.*



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Tesca Technologies Pvt. Ltd.

Order Code – 25269388.10  
Heat Transfer apparatus for conduction



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