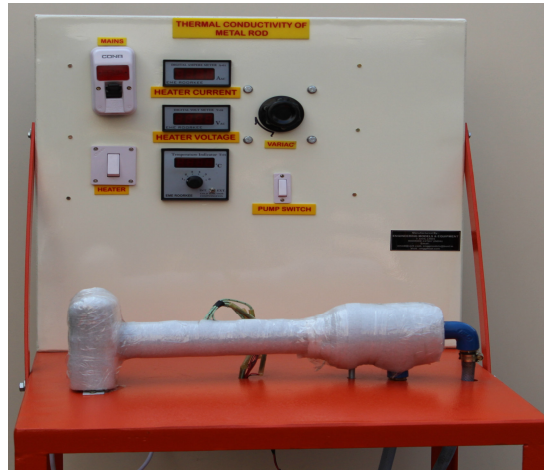


MODEL NO.  
HMT-17



## THERMAL CONDUCTIVITY OF METAL ROD

### Description:

- ❖ The apparatus consists of a solid brass rod of 31.7 mm diameter and length 300.0 mm. One end of the rod is fitted with a copper flange of diameter 82.0 mm and thickness 5.0 mm.
- ❖ An electric heater is attached to this end of rod. The other end opens to a cooling water chamber through which cooling water at a controlled rate is passed.
- ❖ Four thermocouples (No.1 to 4) are also inserted up to the central line of the solid brass rod to measure the axial temperature.
- ❖ Two thermocouples are also pasted over the insulated portion to measure its airside surface temperature for computation of the heat loss to air.

### Experimental Capabilities:

- ❖ To determine the thermal conductivity of a metal rod using one dimensional heat conduction equation.
- ❖ To plot the temperature distribution along the length of the metal rod.

### Facilities required:

- ❖ Electrical Supply (Single phase, 15 Amp)
- ❖ Water supply to fill tank.

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