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HEAT TRANSFER FROM A PIN FIN (EE-1568)

The setup is designed to study the heat transfer in a pin fin. It consists of pin type fin fitted in duct. A fan is provided on one side of duct to conduct experiments under forced draft conditions. Airflow rates can be varied with the help of damper provided in the duct. A heater heats one end of fin and heat flows to another end. Heat input to the heater is given through Variac. Digital Temperature Indicator measures temperature distribution along the fin.

EXPERIMENTS

- To study temperature distribution along the length of fin in both Free & forced convection
- Comparison of theoretical temperature distribution with experimentally obtained Distribution

UTILITIES REQUIRED

- Electricity Supply: 1 Phase, 220 V AC, 5 Amp.
- Table for set-up support

TECHNICAL DETAILS

- Fin Material : Brass
- Size : 12.5 mm (approx.) 15 cm long (approx.)
- Duct : Made of MS
- Fan : Standard make
- Heater : Band type, Nichrome Wire
- Temperature Sensors : RTD PT-100 type (6 Nos.), 5 for pin and 1for duct Temperature.
- Control panel : Dimmerstat : 0-230 V, 2 A,
- Digital Temperature Indicator: 0-300°C, with multichannel switch, On/Off switch, Mains Indicator etc.