

Product Name :
Heat Transfer in Forced Convection**Product Code :**
ALABS-A143-026**Description :**

Heat Transfer in Forced Convection

Technical Specification :

Heat Transfer in Forced Convection

The apparatus consists of blower unit fitted with the test pipe.

Nichrome wire heater surrounds the test section. Four Temperature Sensors are embedded on the test section, two placed in the air stream at the entrance and exit of the test section to measure the inlet and outlet air temperature.

Test pipe is connected to the delivery side of the blower along with the orifice to measure flow of air through the pipe.

Constant heat flux is given to pipe by an electric heater through a variac and measured by Digital Voltmeter and Digital Ammeter.

Experimentation:

To determine average surface heat transfer coefficient for a pipe by forced convection.

Comparison of heat transfer coefficient for different airflow rates and heat flow rates.

To plot surface temperature distribution along the length of pipe.

Utilities Required:

Electricity Supply: 1 Phase, 220 V AC, 10 Amp.

Floor area of 1.2 m x 0.5 m.

Technical Specifications:

Test section: Horizontal, externally heated

Diameter: 28 mm (approx.)

Length: 400 mm (approx.)

Blower: FHP of Standard make

Heater: Nichrome Wire

Digital Voltmeter: 0-300 Volt

Digital Ammeter: 0-2 Amp

Variac: 0-230 V, 2 Amp

Digital Tem.Indicator: 0-3000C, with multi-channel switch

Temperature Sensors: RTD PT-100 type

Instruction Manual: An english instruction manual will be provided along with the Apparatus



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