

Product Name :
Emissivity Measurement Apparatus**Product Code :**
ALABS-A143-030**Description :**

Emissivity Measurement Apparatus

Technical Specification :

Emissivity Measurement Apparatus

The present Set-up is designed to measure the emissivity of test plate. The test plate comprises of a mica heater sandwiched between two circular plates.

Black plate is identical with test plate, but its surface is blackened.

As all the physical properties, dimension and temperature are equal heat losses from both plates will be same except radiation loss.

Hence the input difference will be due to difference in emissivity.

Both plates are supported on individual brackets in a enclosure with one side glass to ensure steady atmospheric conditions.

Temperature Sensors are provided to measure the temperature of each plate and surrounding.

Electric Supply is given to heaters through separate variacs so that temperatures of both can be kept equal and is measured with Digital Voltmeter and Digital Ammeter.

Experimentation:

Determination of the Emissivity of a test plate.

Study the variation of emissivity of test plate with absolute temperature.

Utilities Required:

Electricity Supply : 1 Phase, 220 V AC, 4 Amp.

Table for set-up support.

Technical Specifications:

Test plate Diameter: 160 mm (approx.)

Black Plate Dia: 160 mm (Approx.)

Heater (2Nos.): Nichrome Wire Heater. (One each for test plate & black plate)

Digital Voltmeter: 0-300 Volt

Digital Ammeter: 0-2 Amps

DPDT Selector switches: For Digital Voltmeter & Digital Ammeter

Variacs; 0- 230 V, 2 Amp, (2 Nos.)(One each for test plate and black plate)

Digital Temp. 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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