

**Specification:**

- Radial and linear heat conduction trainer introduces the principle of radial and linear heat conduction and thermal conductivity in solids.
- The trainer is used to determine basic laws and characteristic variables of heat conduction in solid bodies.
- The trainer comprises a linear and a radial experimental setup, each equipped with a heating and cooling element.
- Different measuring objects with different heat transfer properties can be installed in the experimental setup for linear heat conduction.
- The electric heater and thermocouples connect to sockets on the Heat Transfer.
- The trainer includes sensors that are used to record the temperatures at all relevant points.
- Trainer setup consisting of experimental unit, display and control unit.
- Linear heat conduction experiment has: 3 measuring objects, heating and cooling element, 9 temperature measuring points.
- Radial heat conduction experiment has: brass disc with heating and cooling element, 6 temperature measuring points.
- Cooling process is done by means of tap water for the heat sink.
- The measured values which read from digital displays can be transmitted simultaneously via USB directly to a PC, where they can be analysed using photon software.

**Experiments:-****Demonstration and calculation of linear heat conduction (plane wall)**

- Determination of temperature profiles for different materials.
- Determination of the temperature profile in case of a disturbance.
- Calculation of the thermal conductivity  $\lambda$ .

**Demonstration and calculation of radial heat conduction**

- Determination of the temperature profile.
- Calculation of the thermal conductivity  $\lambda$ .

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



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**Technical Data:-****Linear heat conduction**

- 3 measuring objects, insulated
- 1x D x L: 25x30mm, steel
- 1x D x L: 15x30mm, brass
- 1x D x L: 25x30mm, brass
- Heater: 140W

**Radial heat conduction**

- Disc D x L: 110x4mm
- Heater in the centre of the disc: 125W
- Cooling coil on the outer edge of the disc.

**Measuring ranges**

- Temperature: 0...100°C
- Power: 0...200W

**Supply voltage**

- 1 phase, 220V, 50Hz

**Scope of Delivery:-**

- Radial and linear heat conduction trainer
- Hard copy of the user manual.
- Photon software + USB cable.

**Required for Operation:-**

- Laboratory PC.

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