



Features

- Experimental unit for investigating thermal and visible radiation
- Wide range of experiments¹
- User-friendly software with options for saving, printing and creating diagrams

Tesca Thermal Radiation Apparatus contains a blackbody emitter with a thermopile for the investigation of thermal radiation, a light source with luxmeter for illuminance measurements, and absorption plates with thermocouples for the investigation of Kirchhoff's laws. The intensity of thermal and visible radiation can be adjusted. Colour filters and apertures extend the range of experiments.

The measured values are displayed digitally on the measuring unit. At the same time, the measured values can also be transmitted, optionally directly to a PC via USB. The data acquisition software is included.

Specifications

- Investigating thermal and visible radiation
- Blackbody emitter with thermopile to investigate thermal radiation
- White light source with luxmeter to investigate visible radiation
- Absorption plate and reflection plate fitted with thermocouples to investigate Kirchhoff's laws
- Intensity of thermal radiator and light source adjustable
- 3 colour filters with holder (red, green, infrared), aperture
- Luxmeter to measure the illuminance
- Thermocouples to measure the temperature
- Thermopile to measure the radiation capacity
- Optional software for data acquisition via USB under Windows Vista or Windows 7

Technical Specifications:

- Thermal radiator
 - Power output: 400W
 - Max. temperature that can be reached: 150°C
 - Radiation surface area: 0,032m²
- Light source
 - Power output of light bulb: 42W
 - Angle of rotation, both sides: 0...90°
 - Illuminated area: 0,0289m²
- Measuring ranges
 - Illuminance: 0...2.000 Lux
 - Temperature: 2x 0...100°C
 - Radiation capacity: 0...400W/m²

Experiments

- Lambert's cosine law
- Inverse-square distance law (Lambert)
- Stefan-Boltzmann constant
- Kirchhoff's laws
 - Absorptivity
 - Reflectivity
 - Emissivity

Scope of Delivery

- 1 frame
- 1 thermal radiator
- 1 light source
- 1 luxmeter
- 1 thermopile
- 2x absorption plate
- 2x reflection plate
- 3 colour filters with holder
- 2x aperture
- 1 software CD + USB cable
- 1 set of connecting cables
- 1 manual

Requirements

- 220-240V, 50Hz, 1 Phase Mains AC Supply

Note: Specifications are subject to change.

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