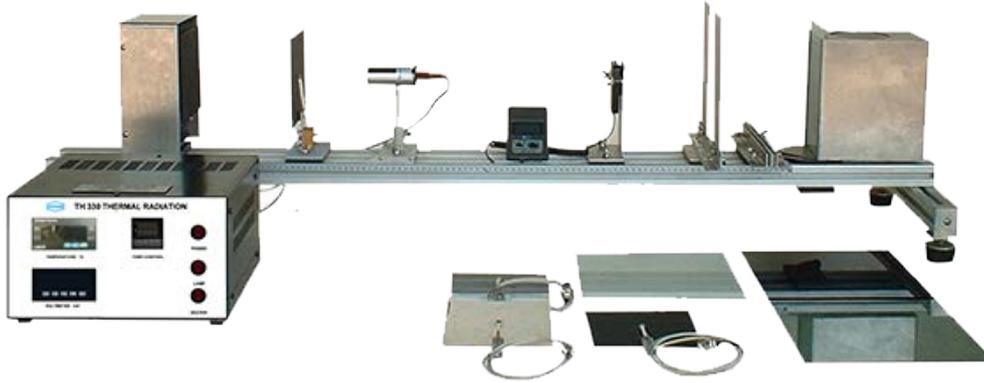


## TH 330 THERMAL RADIATION



### GENERAL DESCRIPTION

The apparatus is a bench top unit is used for studying the laws of heat transfer by radiation using two alternative energy sources namely a radiant heat source and a light source.

The radiation sources as well as accessories are mounted on a horizontal aluminum profile base frame with track scale.

The radiant heat source employs a heater in a housing. Temperature of the heat source can be controlled. Heat radiation is measured by a radiometer. Metal plates with different surface finishes are fitted with thermocouples to demonstrate effect of emissivity on radiation emitted and received. An adjustable vertical slot aperture plates are also provided to study area factor.

The light source is provided by a lamp in a housing with a glass diffuser. Measurement of light is by a light meter. Filters of varying opacity are supplied.

A service module provides power supply and heater control, temperature indicators and radiometer indicator.

### TYPICAL EXPERIMENTS

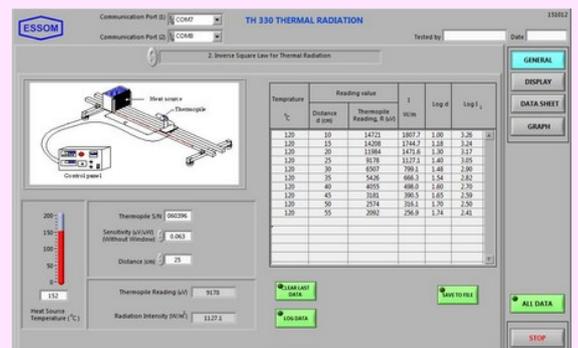
- Inverse square law for light.
- Inverse square law for thermal radiation
- Lambert's cosine law for light.
- Lambert's law of absorption
- Stefan-Boltzmann's law of thermal radiation
- Emissivity different surfaces
- Emissivity two close radiating surfaces
- Kirchoff's law using heat source
- Area factor using heat source

### TECHNICAL DATA

- Base frame :
  - Material : Twin aluminium profile
- Heat source : 400 W heater with housing.
- Measuring instruments
  - Radiometer : Thermopile type with a base clamp.
  - Light meter : 1 ea.
  - Sensors with digital display : Temperature for radiation plates.
- Radiation plates : Two black, one gray and one polished surfaces.
- Insulated adjustable aperture plates : 2 ea.
- Light source : Light bulb.
- Filters : 3 ea with different opacity.
- Power supply : 220 V 1 Ph 50 Hz. Other power supply is available on request.

### OPTIONAL ITEM

- TH 330S Learning software covering all experiments.
- TH 330-050 Computer Interface
  - This includes light sensor, computer interface unit, and software for data display and analysis by computer (separately supplied).



Net (unpacked) shipping dimensions WxLxH : 45 x 155 x 40 cm  
 Net weight : Approx. 35 kg

