

# Power Generation Efficiency Characteristics Evaluation System PEM-2



Applying a 500°C maximum temperature difference across a thermoelectric module under test, the PEM-2 finds the thermoelectric conversion rate  $\eta$  by finding the generated power  $P$  when a one-dimensional heat flow  $Q$  passes through the module. A single run generates a complete set of data characterizing module performance over a wide range of temperatures, and shows the results automatically in a set of elegant graphical displays.

## Applications

- Generation efficiency measurements of thermoelectric generator modules
- Lifespan testing of modules by thermal cycle testing

## Features

- Uses an Infrared Gold Image Furnace with excellent temperature controllability to allow rapid module performance evaluations and endurance testing.
- Capable of applying a maximum 500°C temperature difference across the top and bottom surface of the module.
- Capable of measuring the amount of heat passed through the module.
- Stably maintains the thermal resistance of the contact surface during heating with the air cylinder mechanism.
- Measurement behavior can be configured with only software settings by temperature stability judgments, automatic variation of the load on the thermoelectric generator module, and automatic control of the measurement temperature.

## Specifications

Power Generation Efficiency Characteristics Evaluation System	
Type	PEM-2
Measurement Properties	Conversion efficiency, Power generation amount, Penetration heat amount
Measurement Method	One-dimensional heat flow input method
Temperature Range	Max. 800°C
Sample Size	30 mm square x 5 to 30 mm thickness (negotiable)
Measurement Atmosphere	Inert gas