

# SEEBECK MEASUREMENT SYSTEM

## MODEL SM 800



## ABOUT THE SYSTEM

The Seebeck coefficient measurement system also known as thermopower thermoelectric power, and thermoelectric sensitivity of a material is a measure of the magnitude of an induced thermoelectric voltage in response to a temperature difference across that material, as induced by the Seebeck effect.

It is measured in microvolts per kelvin ( $\mu\text{V}/\text{K}$ ). Seebeck measurement system is designed and developed by our company and has recognition in INDIA. The new system is digital and has PC USB interface. Total operations are performed by highly advanced Seebeck coefficient measurement system test software.

## MODEL SM 800

### Various tests performed by this model

- See beck coefficient vs temperature
- DC resistivity Vs temperature
- I/V Current vs Voltage at fix temperature point

### Optional test performed by this model

- Thermal conductivity Vs temperature



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# SEEBECK MEASUREMENT SYSTEM

## General Specifications

### Seebeck Range

- 1 ( $\mu\text{V}/\text{K}$ ). Kelvin to 20,000 ( $\mu\text{V}/\text{K}$ ).
- Resolution 0.1 ( $\mu\text{V}/\text{K}$ ).

### Temperature range

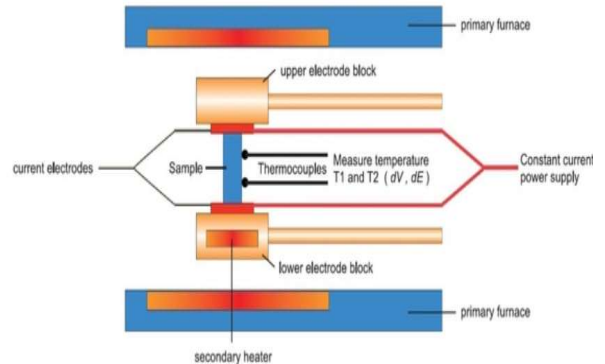
- RT – 873/1073-degree kelvin
- Resolution 0.1 degree

### Resistance range

- 1 milli ohm to 100 Giga Ohm

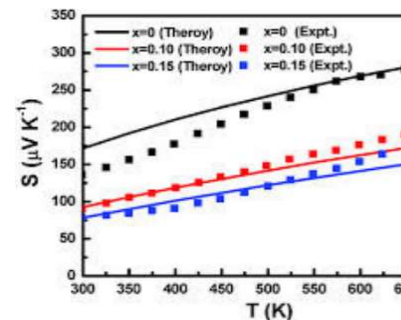
### Other Specifications

- K type highly sensitive thermocouples for accurate measurement
- Sample dimensions 20\* 5 mm
- Die punch set provided along with system
- N type P type silicon test samples provided
- PID Controller with PC interface



## System Test Specification

- Gradient 1 to 20 degree
- Gradient resolution 0.1 degree
- Stabilisation cycle 50 to 500 readings
- Heating cooling terminology is used
- Four probe microtip thermocouples
- Simultaneous measurement of seebeck and resistivity

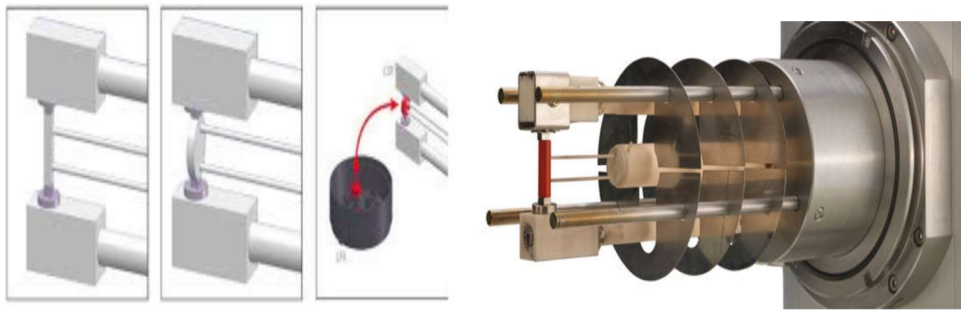


## Optional accessories

- Thermal conductivity chamber

- ❖ Note – Some specifications are related with optional test indicated above. Those are valid only when particular option is purchased

# SEEBECK MEASUREMENT SYSTEM



## List of Deliverables

- Hot stage seebeck measurement system
- Temperature controller stage
- Nanovoltmeter
- Current source
- Seebeck coefficient measurement Test Software
- Standard test sample
- Vacuum pump
- Inter connecting cables and manual

## List of users

- Delhi University
- IGCAR Kalpakkam
- IIT BHU
- Anna University