Compact Transmission/Reflection S-100R Microscope Heat Stage – *High-Temp Measurements under Vacuum or Controlled Gas Flow*

Features Of S84 Microscope Heat Stage

- ***Compact design fits most stages of FTIR and Raman microscopes***
- ***Feasible for direct transmission measurements in sample compartments of FTIR spectrometers***
- ***Precise temperature control up to 600 °C***
- ***Vacuum, reaction gas or inert gas chamber environment***
- ***Easy sample loading, assembly and disassembly***

The S-100R Microscope Heat Stage is designed for spectroscopic analysis and monitoring of small samples at varying temperatures. The accessory can be located directly on the sampling stages of most FTIR and Raman microscopes. It can also be used for transmission measurements when placed in the sample compartment of the spectrometer.

The stage features a lightweight aluminum body that is 16-mm thick. The sample is located between two IR transparent windows (transmission measurements) or between the IR reflecting mirror and single window (trans-reflection configuration). Samples can be easily loaded and removed by twisting the upper window plate by hand. Optional inserts for varying sample sizes and shapes are available and a wide selection of window materials can be used with the stage.

The accessory can be used under ambient conditions or under vacuum. Pressure up to 0.5 MPa is possible with appropriate windows. In addition, inert or reaction gas can be flowed through the stage chamber. Valves and connectors required for these special configurations should be ordered separately.

Temperature range of the S-100R Microscope Heat Stage spans from ambient to 600 °C, and is controlled with +/- 0.5% accuracy by digital controllers available in PC or dedicated configurations. PC option provides graphical parameter setup, ramping and USB connectivity. Liquid cooling is integrated into the accessory base in order to minimize heat transfer to the microscope stage, improve temperature stability and aid the cooling process.

S-100R Microscope Heat Stage Specifications

Stage Body	Aluminum
Aperture	Maximum: 4 mm, Minimum: 1 mm
Chamber Window	20 mm x 2 mm
Sample Port Window	13 mm x 1 mm
Leak Rate	Less than 1 x 10-9 Pa/m3 per second
Gas Connection	1/16" Swagelok®
Coolant Connection	4-mm quick connection (optional)
Stage Dimensions (W x D x H)	84 x 100 x 16 mm
Stage Weight	0.5 kg
Temperature Control	Resistive heating
Temperature Range	Ambient to 600 °C
Accuracy	+/- 0.5%
Sensor Type	Type K thermocouple
Temperature Controllers	
Digital	+/- 0.5% of set point
Digital PC	+/- 0.5% of set point, graphical setup, up to 10 ramps, USB interface
Input Voltage	90–264 V, auto setting, external power supply
Output Voltage	Variable 40 VDC/80 W max.
Controller Dimensions (W x D x H)	125 x 200 x 60 mm

Ordering Information

Part Number	Description
162-4186	S-100R Microscope Heat Stage *Includes holders for 1, 2, and 3-mm samples, coolant tube, valve and 13 x 1-mm reference mirror*

Temperature Controllers *(must select one)*

Part Number	Description
076-2460	S-100R Digital Temperature Controller – PC Control
076-2260	S-100R Digital Temperature Controller

Windows *(must select)*
(1) 20 x 2 mm and (1) 13 x 1 mm for Reflection Measurement
(2) 20 x 2 mm and (1) 13 x 1 mm for Transmission Measurement

Part Number	Description
160-1134	KBr Disk (20 x 2 mm)
160-1148	BaF_2 Disk (20 x 2 mm)
160-1144	CaF_2 Disk (20 x 2 mm)
160-5003	KBr Disk (13 x 1 mm)
160-1149	BaF_2 Disk (13 x 1 mm)
160-5001	CaF_2 Disk (13 x 1 mm)

Options and Replacement Parts for Transmission/Reflection S-100R Microscope Heat Stage

Part Number	Description
162-4114	Plate for Motorized Microscope Stage*
162-4115	2" x 3" Slide Mount for Transmission Measurements
162-4116	Holder for 1, 2, 3 mm diameter samples
162-4109	Gas Valve 1/16" (Gas Connection) – 2 needed
162-4110	Quick Connector (for external circulating liquid) – 2 needed
162-4111	Reference Mirror (13 x 1 mm)
170-1000	Liquid Recirculator

*Must provide information for microscope make and model