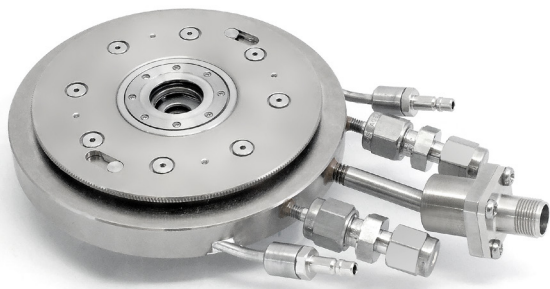


# Compact Transmission/Reflection S-100R Microscope Heat Stage – High-Temp Measurements under Vacuum or Controlled Gas Flow



## FEATURES

- Compact design fits most stages of FTIR and Raman microscopes
- 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.

## SPECIFICATIONS

Stage Body	Aluminum
Aperture	Maximum: 4 mm, Minimum: 1 mm
Chamber Window	20 x 2 mm
Sample Port Window	13 x 1 mm
Leak Rate	< 1 x 10 <sup>-9</sup> Pa m <sup>3</sup> /sec
Vacuum Achievable	1 x 10 <sup>-3</sup> Torr
Pressure Maximum	0.5 MPa (requires BaF <sub>2</sub> , CaF <sub>2</sub> , ZnSe, SiO <sub>2</sub> windows)
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	Touch-panel display with USB interface. PIKE TempPRO software (sold separately) for PC control with unlimited ramps and automated data collection.
Input Voltage	115/230 VAC, user-selectable
Output Voltage	115 VAC/80 W max.
Controller Dimensions (W x D x H)	130 x 230 x 210 mm

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.

## ORDERING INFORMATION

### PART NUMBER DESCRIPTION

162-4186	S-100R Microscope Heat Stage <i>Includes holders for 1-, 2-, and 3-mm samples, coolant tube and 13 x 1-mm reference mirror</i>
----------	---

### TEMPERATURE CONTROLLERS (must select one)

#### PART NUMBER DESCRIPTION

076-2460	S-100R Digital Temperature Controller, PC Control
007-0207	PIKE TempPRO Software

Note: Digital Temperature Control Module is required. PIKE TempPRO software sold separately.

### 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	Disk, KBr, 20 x 2 mm
160-1148	Disk, BaF <sub>2</sub> , 20 x 2 mm
160-1144	Disk, CaF <sub>2</sub> , 20 x 2 mm
160-5003	Disk, KBr, 13 x 1 mm, max temp 300 °C
160-1149	Disk, BaF <sub>2</sub> , 13 x 1 mm, max temp 500 °C
160-5001	Disk, CaF <sub>2</sub> , 13 x 1 mm, max temp 900 °C

Note: Maximum temperature restriction applies to sample window. The temperature of the outer windows is significantly less due to required liquid recirculated water flow.

### OPTIONS AND REPLACEMENT PARTS

#### PART NUMBER DESCRIPTION

162-4114	Plate for Motorized Microscope Stage*
162-4115	Slide Mount for transmission measurements, 2 x 3"
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
170-1100	Liquid Recirculator

\*Must provide information for microscope make and model