# FT-IR Spectroscopy





Figure 2. Hot Stage accessory with heating block.

# Variable-temperature Stage Options for FT-IR Microscopes and Imaging Systems

There is an increased interest in the microscopic analysis of samples using FT-IR variable-temperature microscopy or imaging. Application areas include polymer studies, pharmaceutical and food analysis and geological measurements.

PerkinElmer offers two options for variable temperature analyses – Linkam variable temperature sample cell and the hot stage accessory.

#### Linkam Variable Temperature Sample Cell

This kit is designed for either the Spotlight<sup>™</sup> 200 or Spotlight 400 systems. It includes the Linkam stage, the temperature controller and a modified Spotlight stage casting.

The silver cell has a tapered hole to allow maximum transmittance of IR without interference. The cell will operate from ambient to 600  $^{\circ}$ C with the option of extending this range down to -196  $^{\circ}$ C.

Spectra can be collected in either transmission or reflectance mode. The cell is supplied complete with a  $BaF_2$  sample window. KBr or ZnSe windows are also available as options.



#### **Specifications**

Temperature range		-196 to 600 °C	
Fast heating rates		up to 130 °C/min	
Fast cooling rates		up to 130 °C/min	
Temperature stability		<0.1 °C	
16 mm X,Y s	sample manipulation		
Sample area		22 mm diameter	
Gas tight ch control	amber for atmospheric		
100 ohm pla	atinum resistor sensor	1/10th Din	
Light apertu	re	-1.3 mm Ø for high accuracy control	
Silver heating thermal cond	g block for high ductivity		
Direct injecti into the silve	on of the coolant er block		
Range of IR transparent windows available including BaF2, ZnSe and KBr			
Water cooled temperature	d stage body for high work (>300 °C)		
Stage body s	size	137 x 92 x 22 mm	
Ordering in	formation		
L1860634	Linkam Hot Stage Kit 220-240V, 50Hz		
L1860635	.1860635 Linkam Hot Stage Kit 110-130V, 60Hz		

- L1860636 Linkam Hot Stage Kit 220V, 60Hz (Korea)
- L1860632 Cooler for Hot Stage 110V
- L1860633 Cooler for Hot Stage 240V

## **Hot Stage Accessory**

The hot stage accessory consists of a heating block, shown in Figure 2, which accepts IR windows, and a temperature controller. The cell is supplied with a set of KBr windows. The heating block contains an integral thermocouple where the temperature is digitally displayed in degrees Centigrade on the controller. The hot stage can heat samples up to 230 °C in 1 ° increments. A target temperature may be selected and maintained. The hot stage is held in the slide clip on the sample stage of a PerkinElmer® FT-IR MultiScope™, AutoIMAGE™ or any Spectrum™ Spotlight system. The microscope does not require any modification in order to add the hot stage accessory.

### Ordering information

N1870184	Hot Stage Accessory 110-120V 60Hz	
N1870188	Hot Stage Accessory 220-240V 50Hz	
Windows		
N9302611	Barium Fluoride Disk (13 x 1 mm)	
N9302612	Barium Fluoride Disk (13 x 2 mm)	
N9302613	Zinc Selenide Disk (13 x 1 mm)	
N9302614	Sodium Chloride Disk (13 x 2 mm)	
N9302615	Potassium Bromide Disk (13 x 2 mm)	



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