

## HFM 446 *Lambda* Series

Standards	ASTM C518, ASTM C1784*, ISO 8301, JIS A1412, DIN EN 12667, DIN EN 12664*
Type	Stand-alone, with integrated printer
Air-tight system	Sample compartment with possibility to introduce purge gas
Motorized plate	Yes
Thermal conductivity range	<ul style="list-style-type: none"> <li>■ Up to 2.0 W/(m·K) 2.0 W/(m·K) achievable with optional instrumentation kit, recommended for hard materials and those with higher thermal conductivity</li> <li>■ Accuracy: ± 1% to 2%</li> <li>■ Repeatability: 0.5%</li> <li>■ Reproducibility: ± 0.5%</li> </ul> → All performance data is verified with NIST SRM 1450 D (thickness 2.5 cm)
Plate temperature range	-20°C to 90°C, optional for the HFM 446 <i>Medium</i> : -30° to 90°C
Transducer metering	<ul style="list-style-type: none"> <li>■ <i>Small</i>: 102 mm x 102 mm</li> <li>■ <i>Medium</i>: 102 mm x 102 mm</li> <li>■ <i>Large</i>: 254 mm x 254 mm</li> </ul>
Chiller system	External; constant temperature setpoint over plate temperature range
Plate temperature control	Peltier system
Plate motion	Operator-actuated plate opening for fast sample change, quick return to setpoint
Plate thermocouples	Three thermocouples on each plate, type K (two extra thermocouples with instrumentation kit)
Thermocouple resolution	± 0.01°C
Number of setpoints	Up to 10
Specimen size	<ul style="list-style-type: none"> <li>■ <i>Small</i>: 203 mm x 203 mm</li> <li>■ <i>Medium</i>: 305 mm x 305 mm</li> <li>■ <i>Large</i>: 611 mm x 611 mm</li> </ul>
Specimen thickness (max.)	<ul style="list-style-type: none"> <li>■ <i>Small</i>: 51 mm</li> <li>■ <i>Medium</i>: 105 mm</li> <li>■ <i>Large</i>: 200 mm</li> </ul>
Variable load/contact force	<ul style="list-style-type: none"> <li>■ <i>Small</i>: 0 to 854 N (21 kPa on 203 x 203 mm<sup>2</sup>)</li> <li>■ <i>Medium</i>: 0 to 1930 N (21 kPa on 305 x 305 mm<sup>2</sup>)</li> <li>■ <i>Large</i>: 0 to 1900 N (5 kPa on 611 x 611 mm<sup>2</sup>)</li> </ul> Precise load control and possibility to vary density of compressible materials; contact pressure calculated by software based on load sensor signal
Thickness determination	<ul style="list-style-type: none"> <li>■ Four-corner thickness determination via inclinometer</li> <li>■ Compliance to non-parallel specimen surfaces</li> </ul>
Software features	<ul style="list-style-type: none"> <li>■ <i>SmartMode</i> (incl. <i>AutoCalibration</i>, report generation, data export, wizards, user methods, predefined instrument parameters, user-defined parameters, <math>C_p</math> determination, etc.)</li> <li>■ Storage and restoration of calibration and measurement files</li> <li>■ Plot of plate/mean temperatures and thermal conductivity values</li> <li>■ Monitoring of heat flux transducer signal</li> </ul>

\* not HFM 446 *Large*