# LFA 427

## Laser Flash Apparatus / Pyrometer version for up to 2800°C

#### **Laser Flash technique over the broadest temperature range**

Thermal conductivity and thermal diffusivity are the most important thermophysical material parameters for characterizing the thermal transport properties of a material or component. The Laser Flash technique is currently the most widely accepted method for precise measurement of the thermal diffusivity and the LFA 427 is the number one instrument on the world market.  
High precision and reproducibility, short measurement times, variable sample holders and defined atmospheres are outstanding features of LFA measurements over the entire application range from -120°C to 2800°C.  
  
**A special version with a pyrometer allows measurements from room temperature to 2800°C.**  
  
The thermal conductivity of disk-shaped samples of ceramic, glass, metals, melts and liquids, powders, fibers and multi-layer materials ranging from vacuum insulation panels to diamonds is measured with equal speed and accuracy. The temperature-dependent measured thermal diffusivity value along with the corresponding specific heat ([**DSC 404 *F1* Pegasus®**](https://www.netzsch-thermal-analysis.com/en/products-solutions/differential-scanning-calorimetry/dsc-404-f1-pegasus/)) and density (DIL 402 C) data are used to calculate the thermal conductivity.  
The laser power, pulse width, gas and vacuum are variable over a wide range, making it possible to set the optimum measurement conditions for the very different sample properties.  
  
The LFA 427 is the most powerful and versatile LFA system for research and development as well as all applications involving characterization of standard and high-performance materials in automobile manufacturing, aeronautics, astronautics and energy technology.