

GHP 456 Titan®

Technique/Design	<ul style="list-style-type: none"> Absolute method (no calibration or reference materials required) Symmetrical arrangement Fully automated operation
Standards	Based on standards such as ISO 8302, ASTM C177, DIN/EN 12667, DIN/EN 12939, etc.
Mean specimen temperature range	<ul style="list-style-type: none"> Low-temperature version: -160°C to 250°C High-temperature version: -160°C to 600°C Both versions require LN ₂ cooling for the sub-ambient temperature range
Cooling systems	<ul style="list-style-type: none"> Liquid nitrogen (LN₂): -160°C to 250°C Compressed air: 50°C to 300°C Chiller: 20°C to 85°C → No active cooling from 300°C to 600°C
Plate dimensions	<ul style="list-style-type: none"> 300 mm x 300 mm Motorized plate hoist
Plate material	<ul style="list-style-type: none"> Low-temperature version: Aluminum alloy High-temperature version: Tungsten alloy
Plate temperature range	<ul style="list-style-type: none"> Standard version: -180°C to 270°C High-temperature version: -180°C to 620°C
Vacuum-tightness	By design, 5 x 10 ⁻⁴ mbar (0.05Pa)
Defined pressure levels	Controlled between 0.1 mbar and 100 mbar
Specimen thickness	<ul style="list-style-type: none"> Up to 100 mm (typically 10 ... 50 mm) Max. difference in thickness for the two specimens to be measured: 2%
Atmosphere/pressure level	<ul style="list-style-type: none"> Oxidizing up to 300°C Inert Vacuum Defined pressure levels
Thermal conductivity range	0.003 to 2 W/(m·K)*
Minimum measurable thermal resistance	0.02 m ² ·K/W*
Accuracy	Typically 2%*
Reproducibility	Typically < 1%*
Software specialties	<i>SmartMode</i> , including: <ul style="list-style-type: none"> Method-based, easy operation (e.g., user and predefined methods) Support of controlled, adaptive cooling Report generator Results including combined standard uncertainties according to GUM**

* Depending on the measurement conditions and specimen properties

** GUM = Guide to the Expression of Uncertainty in Measurement