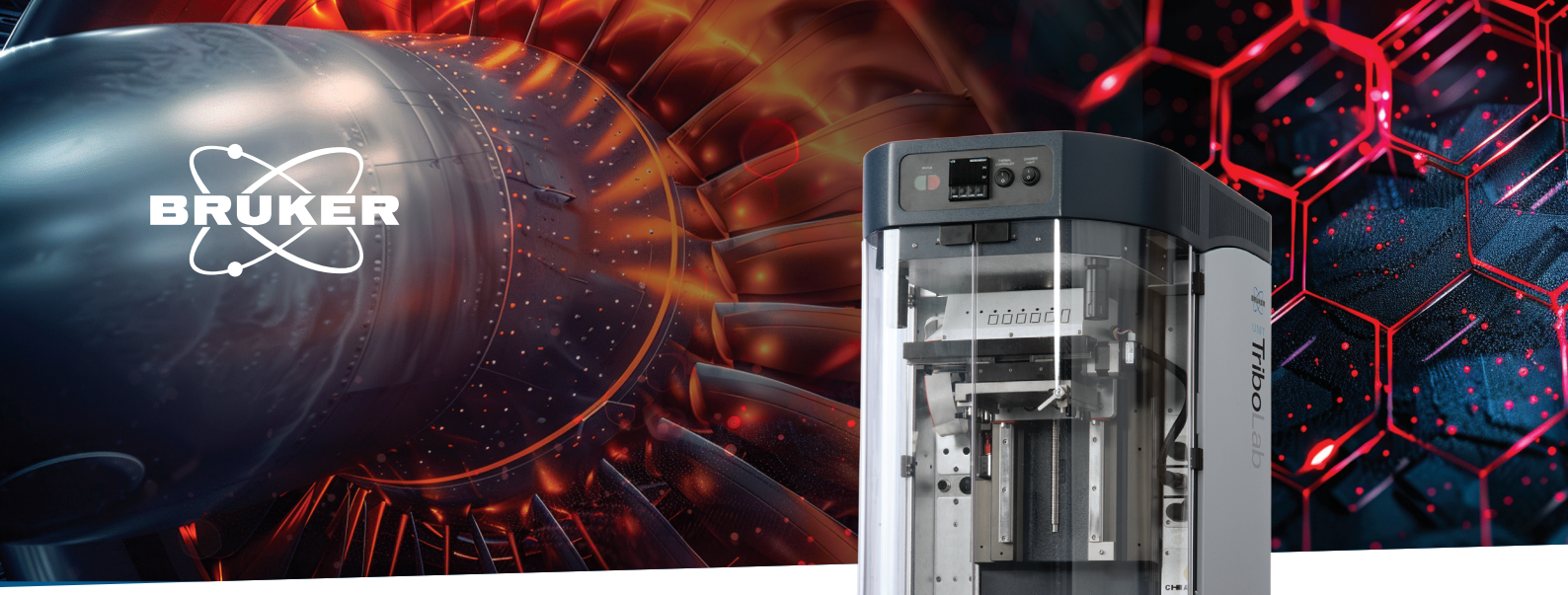


TRIBOLOGY AND MECHANICAL TESTING

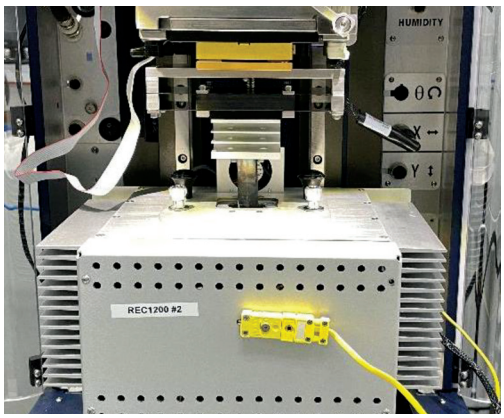
ROT-1200
REC-1200

Ultrahigh Temperature Chambers to 1200°C for Rotary and Reciprocating Drives

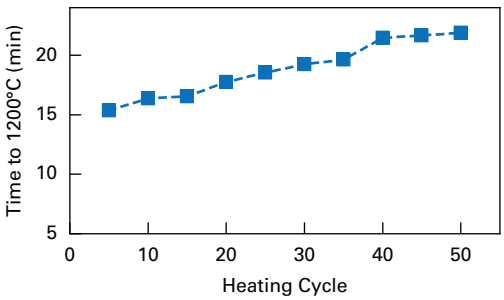
Temperature significantly influences wear and friction behavior of materials. Bruker's UMT TriboLab® ultrahigh temperature chambers allow testing as high as 1200°C. When paired with the rotary (ROT) or reciprocating drive (REC), the ROT/REC-1200 chambers expand TriboLab's capabilities, enabling easy, reliable ultrahigh-temperature testing in demanding research and industrial applications.

ROT/REC-1200 Features

Unlike conventional furnaces, these chambers maintain performance under dynamic motion. Unparalleled ±0.5% thermal stability and programmable temperature ramps ensure test accuracy, even under aggressive cycling conditions. ROT/REC-1200 have optimized airflow and radiation designs to minimize gradients, with interchangable drives for flexible test configuration. They synchronize fully with tribometer sensors (i.e., friction, wear, force) and have built-in over-temperature protection and inert gas purging options.



REC-1200 environmental test chamber installed on a UMT TriboLab tribometer with reciprocating drive.

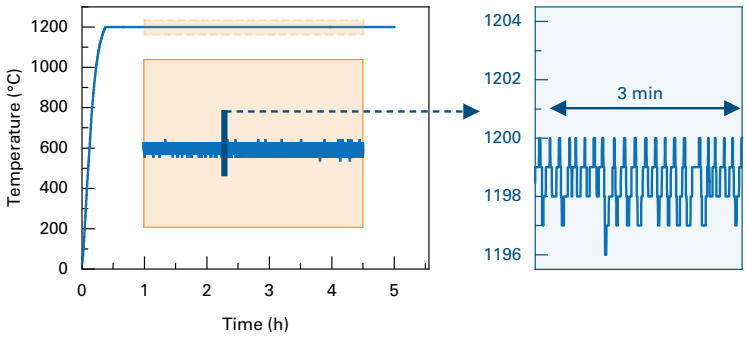


Exceptional heating performance in aggressive cycling conditions.

Ideal Applications

The ROT/REC-1200 ultrahigh temperature chambers extend the UMT TriboLab plaform's capabilities to:

- Tribology testing of coatings, ceramics, and alloys at elevated temperatures
- Thermal degradation and boundary/mixed lubrication under extreme conditions
- Materials screening for aerospace, nuclear, or automotive components
- Oxidation and thermal cycling studies



The ultrahigh-temperature chamber heats from room temperature to 1200°C in less than 20 minutes. The inset combined with the right-hand outset demonstrate accurate and precise control with ±0.5% thermal stability control over an extended heating duration.

ROT/REC-1200* Specifications

Temperature range	Ambient to 1200°C
Heating method	Inductive
Ramp rate	≤55°C/min (Heating rate subject to environmental conditions, e.g., room humidity and temperature)
Compatible drive types	Rotary; Reciprocating
Sample size	≤30x30 mm; 50 mm disc
Thermal uniformity	±0.5%
Control interface	Integrated with UMT GUI
Cooling system	Passive/forced air

* *not yet available for sale in Europe*

Bruker Nano Surfaces and Metrology

San Jose, CA • USA
Phone +805.967.1400/ +800.873.9750

productinfo@bruker.com

www.bruker.com/TriboLab