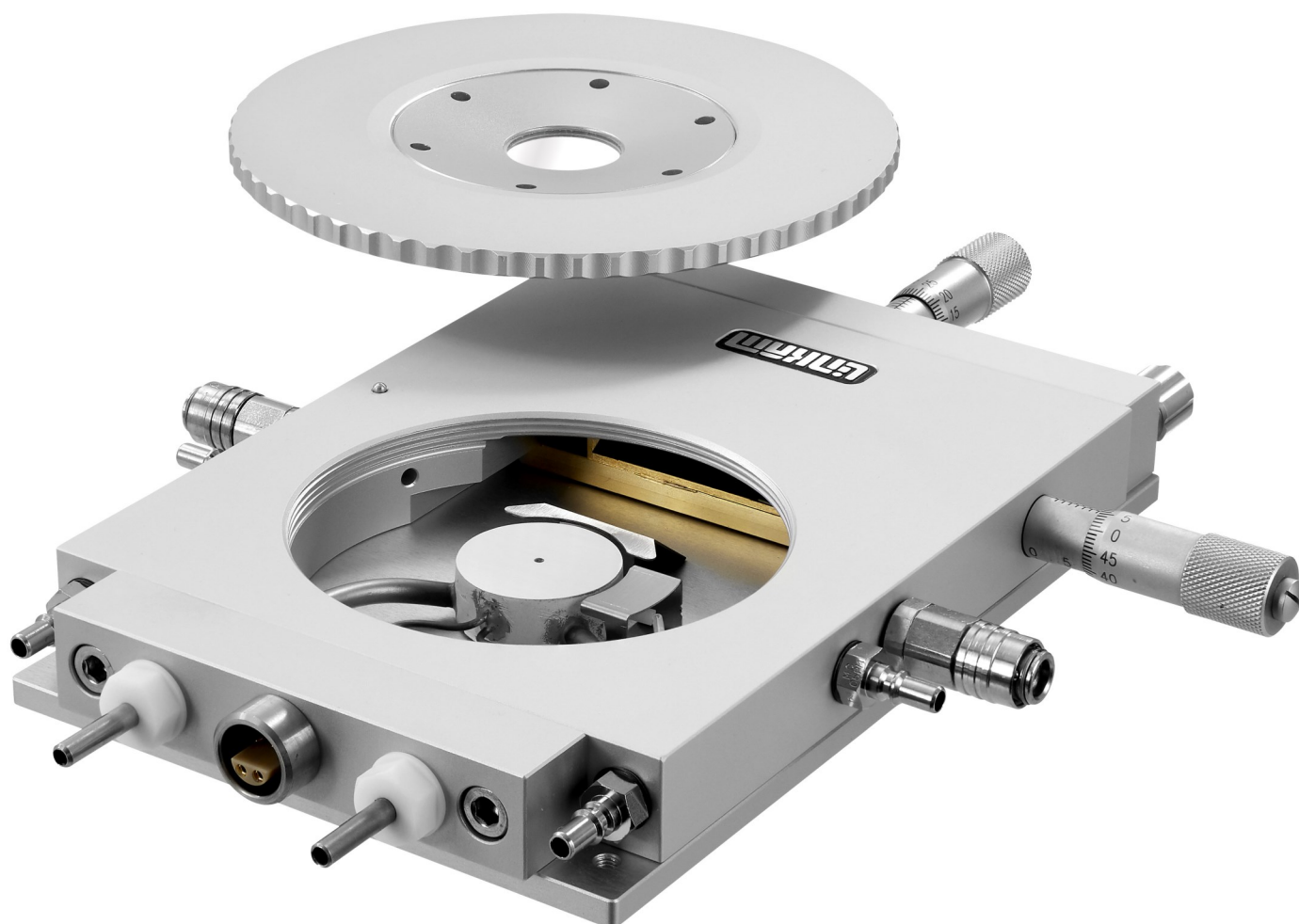


THMS600

Versatile Heating and Cooling Stage



Heating and Freezing

Temperature range from
< -195°C up to 600°C

Optical Techniques

Supports confocal, Raman,
Light Microscopy, X-ray and
more

Variable Heating Rates

Precise control from 0.01°C
to 150°C/min



 www.linkam.co.uk

 +44 (0)1737 363476

 info@linkam.co.uk

Introducing the THMS600

Linkam's market-leading THMS600 is one of the most widely used heating and cooling instruments available; thousands of this popular device have been sold around the world to date. The THMS600 is used in a range of applications where rapid heating/cooling rates and high levels of accuracy and stability are required. Samples are quickly characterised by heating to within a few degrees of the required temperature at a rate of up to 150°C/min, then slowed down to a few tenths of a degree per minute to closely examine sample changes.

Our NEXUS software can be used to record the entire experiment and associated images, which can then be displayed as a chart or exported for further analysis. The TASC image analysis module can be used to analyse structural changes as the sample evolves with temperature.

Several application-specific versions of this stage are also available; these include pressure, humidity, electrical sample measurement and a vertical stage with sample holders enabling use in infrared or X-ray spectrometers.

A system requires both the THMS600 stage and a T96-S temperature controller, which is available with either NEXUS software for computer control, or a LinkPad touch screen for stand-alone control. For cooling below ambient temperatures, an optional LNP96-S liquid nitrogen pump is also available.



Features

WIDE TEMPERATURE RANGE

The temperature range spans from $< -195^{\circ}\text{C}$ (using the optional LNP96-S) up to 600°C , accommodating a versatile range of experimental conditions.

RAPID HEATING / COOLING RATES

The powerful T96-S controller allows the stage to heat samples at a maximum rate of $150^{\circ}\text{C}/\text{minute}$.

HIGH DEGREE OF ACCURACY AND STABILITY

The embedded high quality Pt100 platinum sensor guarantees high accuracy and stability throughout the temperature range.

VARIOUS OPTICAL TECHNIQUES

Add environmental control to Raman spectroscopy, confocal microscopy, X-ray diffraction, and most other experimental setups.

QUICK-RELEASE GAS PORTS

Simple and easy stage purging to allow atmospheric composition control.

XY MANIPULATORS

Control of sample position over 15mm of travel in X and Y directions via precision ground manipulators.

WATER-COOLED

Water-cooled stage body for work above 300°C .

CUSTOM OPTIONS

Please contact us with details of your requirements.

Application Examples

The versatile nature of the THMS600, with its many options and configurations, means it can be tailored to suit a variety of applications:

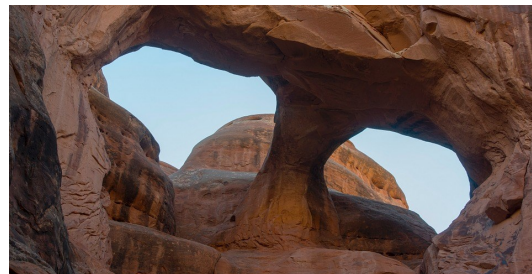
Earth Sciences and Geology

The THMS600 is used to aid advances in geological research, including studies of geothermal processes in rock formation, and observing the effect of environmental conditions on mineral deposits. The device adds precise atmospheric control in combination with many microscopy and spectroscopic characterisation techniques.

Gas Flow Analysis

Geo-fluids

Gas Solubility



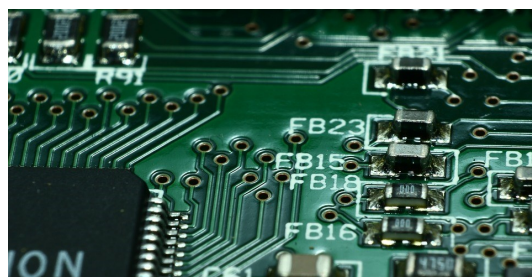
Semiconductor and Electrical

Temperature control and atmospheric chemical characterisation via microscopy and spectroscopy are commonly used for analysis of semiconducting materials. The THMS600 can be used across many research fields, from LEDs and photovoltaic devices to energy storage and renewable energy materials.

Photovoltaics

Liquid Crystals

2D Materials



Materials and Metallurgy

Temperature and environmental characterisation of materials and metallic samples are important analytical techniques. There are many applications including the melting point and grain analysis of composite materials.

Iron Ore

Grain Analysis

Oxidation



Technical Specification

Temperature Range

< -195°C (with the addition of an optional LNP96-S) up to 600°C

Heating/Cooling Rates

0.01°C to 150°C/min

Temperature Stability

< 0.01°C

XY Manipulation

15mm in X and Y

Sample Size

22mm diameter

Objective Lens Working Distance

4.8mm

Compatibility

Reflected and transmitted light microscopes, confocal, Raman Spectroscopy, X-ray and more. Clamping options are available for most microscopes.



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Discover More...



Control Options

Take control of your experiment with NEXUS software, or the stand-alone LinkPad touch screen, alongside the T96 temperature controller.

Both NEXUS software and a LinkPad can be used to control and monitor temperature and many other parameters including vacuum and humidity (dependent on system). The LinkPad provides an easy-to-use interface to the T96, for total control without a PC. Profiles with up to 100 ramps can be programmed, allowing simulation of complex processes.

NEXUS software enhances this with data-logging, rewind logged data and images to review whilst still recording, data run comparison tools, advanced triggering functions and real-time graphical feedback. Optional modules to enhance your system include the NEXUS Imaging Module for synchronised image capture, the NEXUS Extended Measurements Module to measure key image features, the NEXUS 21CFR11 Module for data regulatory compliance, the NEXUS Reporting Module to create reports in Microsoft Word and the NEXUS TASC Module for image-based thermal analysis.

RHGen Relative Humidity Controller

The RHGen is designed to provide sample humidity control to a wide range of Linkam's stages.

It allows precise control of water vapour in the environment around a sample. The RH sensor is located close to the sample block, providing a feedback loop to ensure accurate humidity control. The RHGen can be combined with light microscopy, Raman, FT-IR and X-ray to further characterise samples.

The smallest change in RH% can have huge implications on the characteristics of a sample and how it behaves. When combined with a Linkam stage or other sealed chambers, the RHGen can be used to control the RH between 5% - 90% at temperatures from ambient to 85°C (dependent on device).

Imaging Station

The Imaging Station provides a digital imaging platform compatible with Linkam temperature and environmental control systems. Use our high-resolution camera to capture images and videos of your samples while controlling the temperature and environmental conditions.

The Imaging Station has been specially designed with a pivoted mechanism to allow greater access to your Linkam stage, making it quick and easy to access the chamber and change samples. It has a built-in LED light source for transmitted light with further options available for reflected light, polarisation and phase contrast imaging.

The Imaging Station is also compatible with a range of long working distance objective lenses which can be easily switched with the quick-release mechanism.



Contact Details

Linkam Scientific Instruments Ltd.
Unit 9 Perrywood Business Park
Honeycrook Lane
Salfords
RH1 5DZ
United Kingdom

We make scientific instruments that help characterise materials from polymers to biological tissue and metals to composites. Our instruments are used for research by the world's most advanced scientific organisations and companies. Each of our instruments are designed and manufactured in-house by our team of highly experienced electronics, software and mechanical design engineers. We design and develop solutions for sample characterisation by collaborating with the best scientists in the world. Will you be next?

Linkam products are constantly being improved, hence specifications are subject to change without notice.
TASC products are a family of techniques developed by Prof. Mike Reading (Cyversa) and Linkam.



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