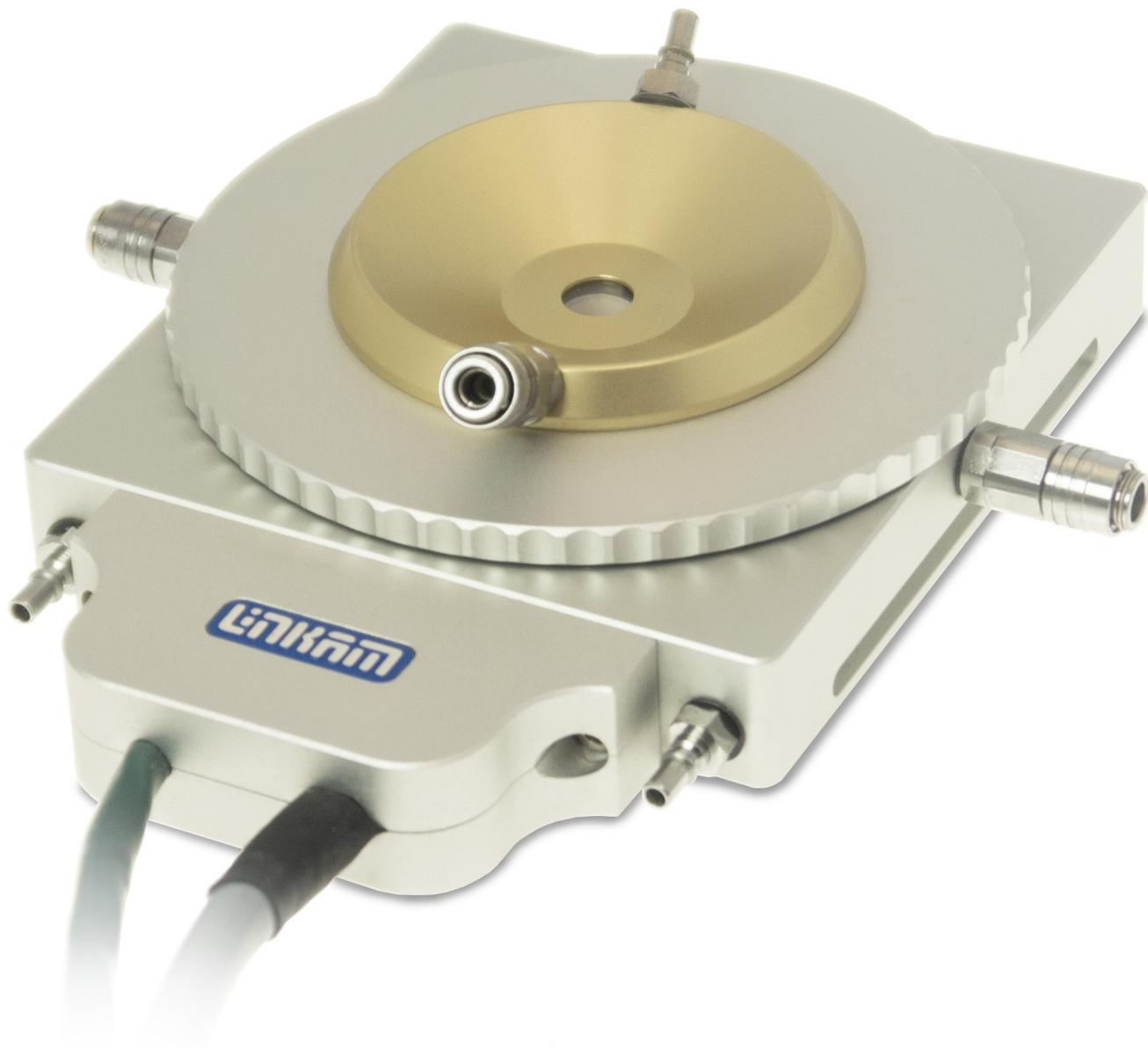


# TS1000/1200/1500

High Temperature Heating Stage



## Ultra-High Temperature

Accurate temperature control  
between ambient upto 1500°C

## Rapid Heating Rates

up to 200°C/minute

## Optical Techniques

Light Microscopy, Raman, X-ray and  
more

# Introducing the TS Stages

Our High Temperature stage range provides the perfect platform for the characterisation of samples such as ceramics, alloys, high temperature polymers and geological fluid inclusions and can be used with light microscopy, Raman and X-Ray.

The sample is placed inside the ceramic sample cup and it is heated from underneath as well as from the sides. A ceramic heat shield is placed over the top to prevent heat from escaping this micro oven. The temperature can accurately heat up to 1500°C at a maximum rate of 200°C/min. The stage body and large diameter quartz lid window are kept at a safe temperature by sealed circulating water. Precision quick-release gas connectors at the sides of the stage body can be used to purge the sample chamber with inert gas. Vacuum versions are also available.

A system comprises a TS high temperature stage and a T96 controller, which is available with either LINK software or LinkPad touch screen interface.



## Features

### HIGH TEMPERATURE

The stage is optimised for the study of metals, ceramics, composites and geological samples with temperatures ranging from ambient up to 1500°C.

### HEATING RATES

Wide range of heating rates between 0.01°C/minute and 200°C/minute, ideal for state transition experiments.

### TEMPERATURE CONTROL ACCURACY

The T96 controller accurately controls the multiple variables of your experiment including temperature which is controlled to one degree accuracy.

### QUICK RELEASE GAS PORTS

Simple and easy stage purging to allow atmospheric composition control.

### ELECTRICAL CONNECTIONS

Optional electrical connections enable electrical measurements to be carried out on the sample.

### ELLIPSOMETER

An ellipsometry version is also available for the TS1000. Developed in collaboration with world leading ellipsometer manufacturers, the stage has been designed to allow optimal optical access to the sample.

### VACUUM

Vacuum connectors and a Pirani vacuum gauge can be added to your system, which will display vacuum value inside the stage on the LinkPad screen or through LINK system controller software.

# Application Examples

The TS1500 can be used to safely recreate a high temperature environment within your laboratory. It has been successfully used to look at a broad range of samples from many different applications including the study of molten magma and iron ore where rapid heating rates and accurate high temperature control is vital. Other examples include:

## Geology

The TS stages is used by many leading universities and institutes to advance paleoclimatic research. Other examples include:



Fluid Inclusions

Thermal Maturation

Volcanology

## Metals

Within metallurgy, the TS stages have many applications including the melting point analysis of composites. Other examples include:



Iron Ore

Grain Analysis

Oxidation

## Ceramics

The TS stages have many applications within the ceramics field from composition studies to manufacturing. Other examples include:



Powder Composition

Processing

Degradation

# Technical Specification

	TS1000	TS1200	TS1500
<b>Temperature Range</b>	Ambient to 1000°C	Ambient to 1200°C	Ambient to 1500°C
<b>Heating Rates</b>	1°C to 200°C/min	1°C to 200°C/min	1°C to 200°C/min
<b>Temperature Stability</b>	<1°C	<1°C	<1°C
<b>Sample Cup Size</b>	17mm x 3mm	10mm x 5mm	7mm x 3mm / 7mm x 6mm
<b>Objective Lens Working Distance</b>	7.0mm	8.5mm	6.0mm / 8.7mm
<b>Light Aperture</b>	1.7mm	1.7mm	1.7mm

## Discover More...

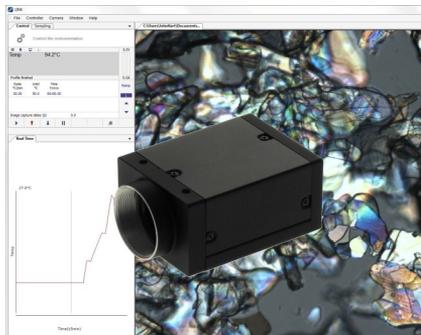


### Control Options

Take control of your experiment with LINK software for Windows, or the stand alone LinkPad touch screen.

Both share a unified user interface for ease of use and in addition to temperature can control or monitor many of the other stage parameters such as vacuum, humidity, tensile force and shear force (dependent of stage type and sensors). A profile with up to 100 ramps can be entered, allowing simulation of complex real world processes.

In addition, LINK provides logging functions and real time graphical feedback. It also supports a number of modules to further enhance your system, including LINK Imaging Module for synchronised image capture, LINK Extended Measurements module for recording the measurement of key features in your images, LINK 21CFR11 Module for data regulatory compliance and LINK TASC providing image analysis based thermal analysis.



### LINK Imaging Systems

Get more out of your Linkam stage, recording the temperature is only half the story. Seeing how your sample changes with changing environment such as temperature, humidity, vacuum, tensile or shear force can provide important information about your sample. Changes to the physical characteristics of your material such as surface structure, colour, opacity, size and shape can be analysed from the images. Add one of the LINK Imaging Systems to record images of your sample automatically during your experiment. There are a range of LINK Imaging Systems available optimised for use with Linkam stages.

### Imaging Station

The Imaging Station is compatible with all Linkam heating and cooling stages. It has been specially designed with a pivoted mechanism to allow greater access to your samples. There are reflected and transmitted light options available and it is compatible with a range of long working distance objective lenses.



## Contact Details

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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?

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