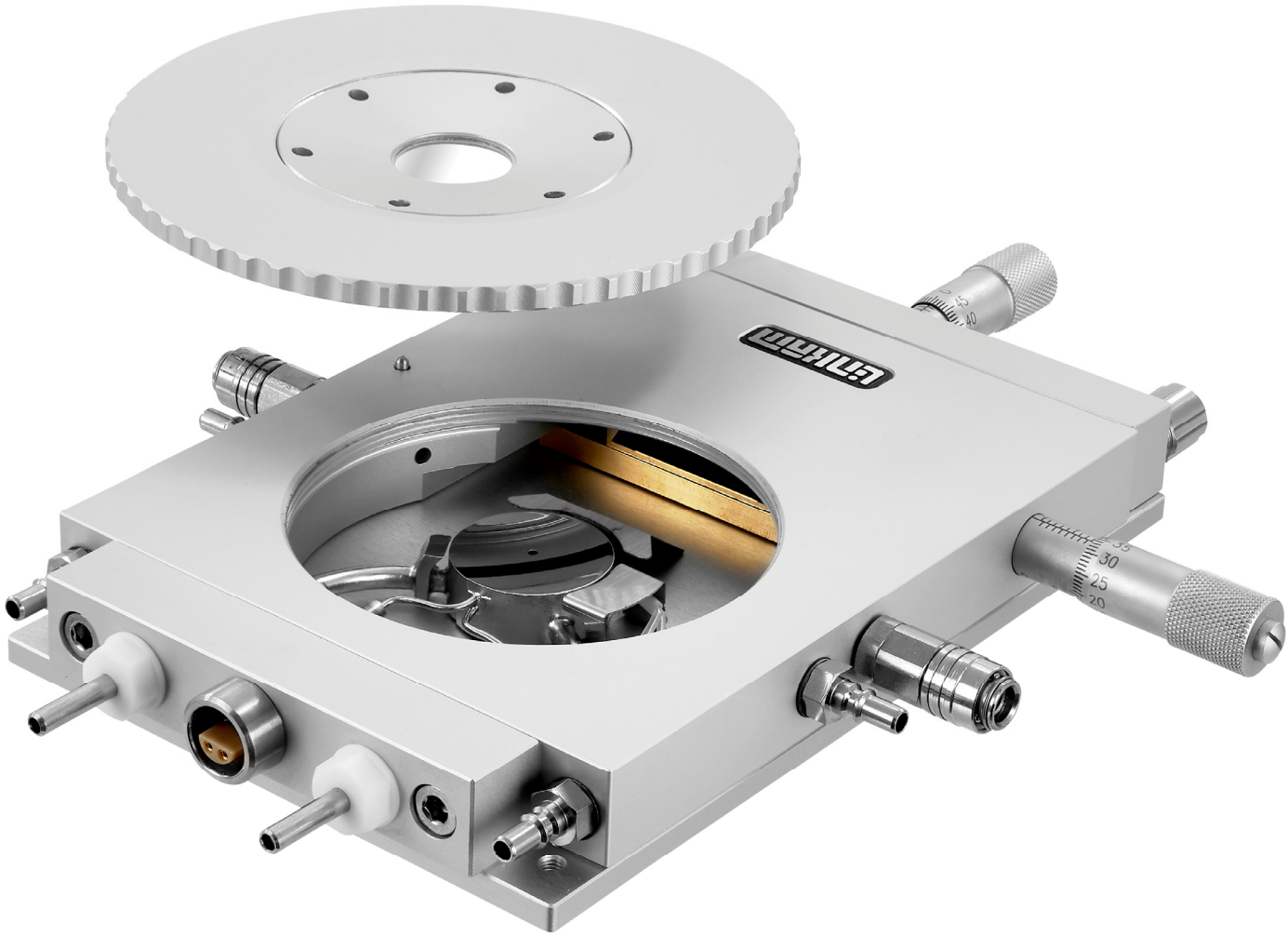
BCS196

Cryobiology Stage



Temperature Range
Controlled heating and cooling from < -195°C up to 125°C at rates from 0.01°C to 150°C/min

Sample Manipulation
Precision 15mm X and Y manipulation

Designed for Cryo
Customised for the characterisation of biological and cryogenic samples

Linkam

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Introducing the BCS196

The BCS196 Cryobiology Stage delivers unrivalled temperature accuracy for biologists working at low temperatures.

Each sample is placed on a 0.17mm thick cover slip on a pure silver heating / cooling element which is accurately controlled by a platinum temperature sensor mounted within 0.5mm of the surface. The sample can be easily moved in both X and Y directions using precision ground manipulators, enabling the user to effectively follow ice crystal growth across the sample with temperature change. The MDBCS196 stage is also available for customers requiring motorised sample manipulation.

Biological samples are often transparent and require phase contrast techniques to make them visible. Linkam manufactures a range of condenser extension lenses and phase rings to make this possible.

The BCS196 can be used to determine the effects of ice crystal size on the sample by the use of the isolated seeding point which enables ice crystal seeding through the sample. The stage can be further modified with a quench cooling feature that enables you to push the sample from an isolated platform onto the pre-cooled silver block and achieve cooling rates approaching 5000°C/min.

LINK software can be used to record the entire experiment and associated images, which can then be displayed as a chart or exported further analysis.

A system requires both the BCS196 stage and a T96-S temperature controller, which is available with either LINK 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°C (with the addition of an LNP96-S) to 125°C for a versatile range of experiments.

Rapid Heating /Cooling Rates
The T96-S controller allows the stage to heat samples at a maximum rate of 150°C/minute.

High Degree of Accuracy and Stability
The embedded high quality Pt100 platinum sensor guarantees high accuracy and stability throughout the temperature range.

XY Manipulators
Sample position can be controlled over 15mm of travel in both X and Y directions via the precision ground manipulators.

Quick-release Gas Ports
Simple and easy stage purging to allow atmospheric composition control.

Quench Cooling Option
Achieve cooling rates approaching 5000°C/min.

Custom Options
Please contact us with details of your requirements.

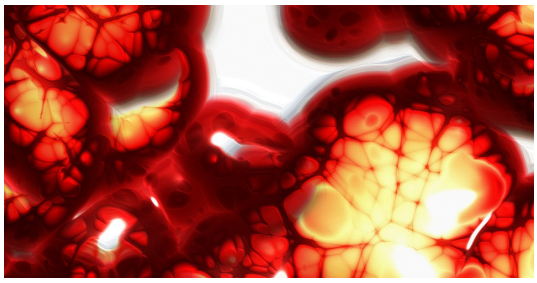
Application Examples

The BCS196 cryobiology stage is used by leading universities and institutes to aid pioneering research of materials requiring precision temperature control in a wide variety of applications including the following:

Life Sciences

The BCS196 is ideally suited for biological applications where temperature must be critically controlled and maintained. It can non-invasively provide information on the thermal and in vivo stability and structure of many chemical and biological compounds.

Tissue Analysis | Coagulation | Andrology



Pharmaceuticals

Pharmaceutical materials are commonly analysed through microscopy and spectroscopy, and frequently require a controlled temperature environment. The BCS196 can be used to look at phase transitions and compound miscibility as a function of temperature.

Drug Delivery | Tablet Stability | Solubility

Food Research

The BCS196 can also be used to study the temperature and atmospheric stability of many types of food samples, from meats to ice cream and chocolate.

Crystallisation | Thermal Analysis | Emulsification

Technical Specification

Temperature Range	< -195°C (with the addition of an LNP96-S) to 125°C
Heating/Cooling Rates	0.01°C to 150°C/min
Light Aperture	1.3mm diameter for accurate sample temperatures
XY Manipulation	Up to 15mm in both directions
Stage Body Size	135 x 92 x 22.1mm
Objective Lens Working Distance	0.1mm to 4.8mm (solutions for shorter working distance lenses available on request)
Compatibility	Clamping options are additionally available for most microscopes

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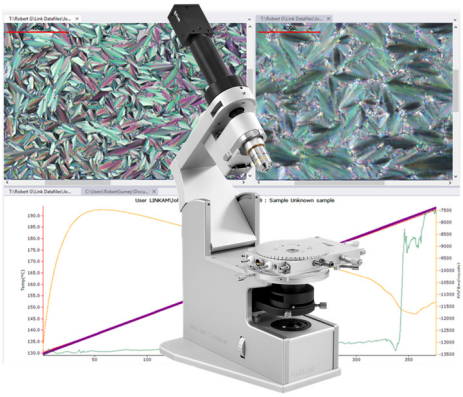
Discover More...

Control Options

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

Both LINK software and LinkPad share a unified user interface that can control and monitor temperature and many other parameters including vacuum, humidity, tensile and shear force (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.

LINK software enhances this with data-logging functions and real time graphical feedback. Optional modules to enhance your system include the LINK Imaging Module for synchronised image capture, the LINK Extended Measurements module to measure key image features, the LINK 21CFR11 Module for data regulatory compliance, and LINK TASC providing image-based thermal analysis.



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.

MDBCS196

A motorised version of the BCS196 stage, allowing the sample to be moved in X and Y directions by precision micro stepped motors is also available. The MDBCS196 enables micron repeatable position resolution and position recall so that a sample can be mapped in order to quickly relocate positions of interest and carry out temperature controlled experiments significant to that point.

Combining the MDBCS196 stage with our LINK Imaging module provides a complete mapping solution enabling high resolution images of the whole sample area to be acquired automatically.

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?

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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