



UDSC L64

Ultimate
DSC-LT



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Since 1957 LINSEIS Corporation has been delivering outstanding service, know-how and leading innovative products in the field of thermal analysis and thermophysical properties.

Customer satisfaction, innovation, flexibility, and high quality are what LINSEIS represents. Thanks to these fundamentals, our company enjoys an exceptional reputation among the leading scientific and industrial organizations. LINSEIS has been offering highly innovative benchmark products for many years.

The LINSEIS business unit of thermal analysis is involved in the complete range of thermoanalytical equipment for R&D as well as quality control. We support applications in sectors such as polymers, chemical industry, inorganic building materials, and environmental analytics. In addition, thermophysical properties of solids, liquids, and melts can be analyzed.

Rooted in a strong family tradition, LINSEIS is proudly steered into its third generation, maintaining its core values and commitment to excellence, which have been passed down through the family leadership. This generational continuity strengthens our dedication to innovation and quality, embodying the essence of a true family-run business.

LINSEIS provides technological leadership. We develop and manufacture thermoanalytic and thermophysical testing equipment to the highest standards and precision. Due to our innovative drive and precision, we are a leading manufacturer of thermal analysis equipment.

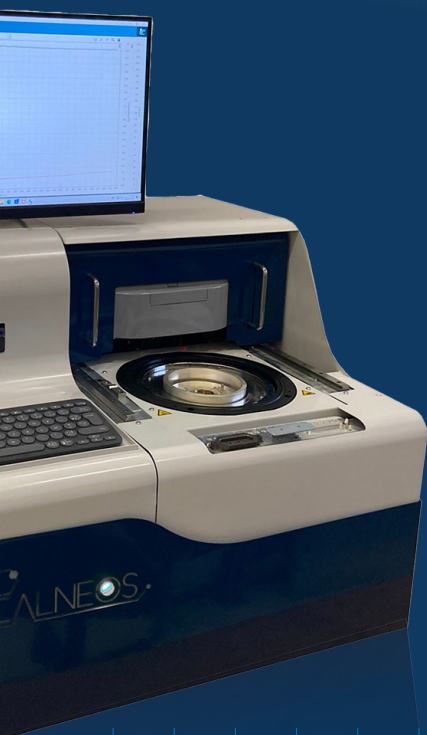
The development of thermoanalytical testing machines requires significant research and a high degree of precision. LINSEIS Corp. invests in this research to the benefit of our customers.

C L A U S L I N S E I S
C E O D I P L . P H Y S .



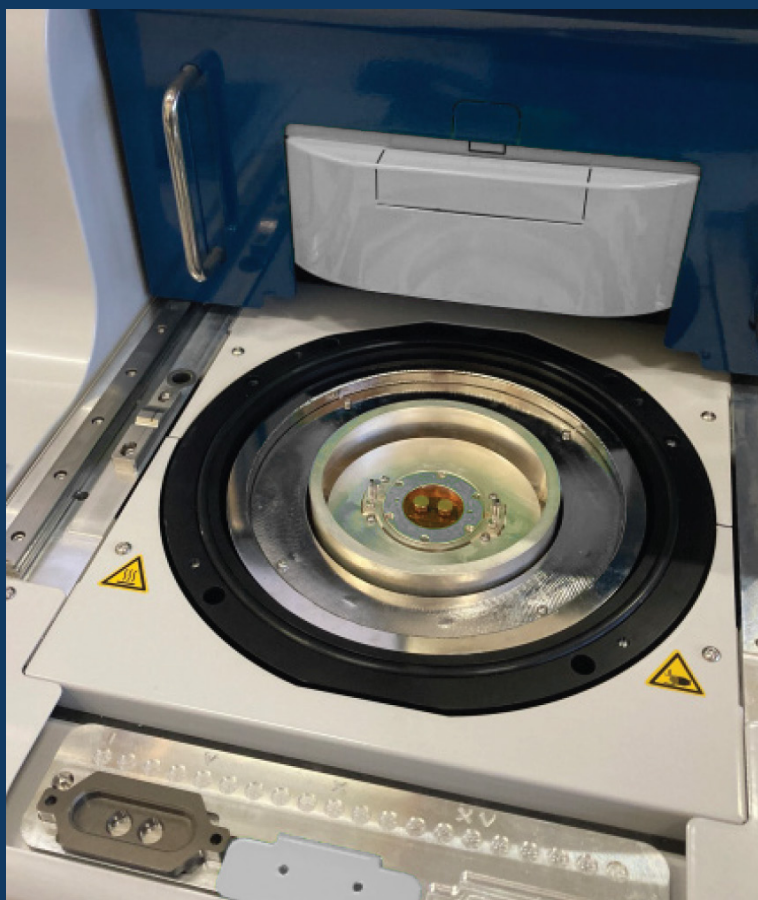
To strive for the best due diligence and accountability is part of our DNA. Our history is affected by German engineering and strict quality control.

We want to deliver the latest and best technology for our customers. LINSEIS continues to innovate and enhance our existing thermal analyzers. Our goal is to constantly develop new technologies to enable continued discovery in Science.



Engineering & Innovation

Ultimate DSC-LT



Ultra
sensitive



High
performance



Ultra
simple

The revolutionary Ultimate DSC-LT (Low temperature) sensor is the result of patents from one of the most prestigious DSC sensor research laboratory. Its remarkable, unrivalled performance makes it the most sensitive device on the market.

Thanks to its exclusive cooling system, unique on the market, the Ultimate DSC pushes back the limits of science. Now you can start your tests at temperatures as low as -170°C , without the use of liquid nitrogen.

A technological breakthrough that opens the door to a new world of experiments and possibilities.

Working Principle

An innovative System for sub-ambient temperatures: Stirling cryocooler

To reach temperatures of -170°C without consuming liquid nitrogen, the Ultimate DSC-LT uses a Stirling cryocooler device. This type of device uses mechanical oscillation to produce sufficient cold power to cool the Ultimate DSC-LT temperature control system.

The Stirling cryocooler device delivers cooling power to a cooling plate specifically designed to cool the oven volume of the Ultimate DSC-LT.

Thanks to this device, the Ultimate DSC-LT can regulate the temperature from -170°C without any time constraints (it can work both in isothermal or in ramp mode).



Technical Specifications

Temperataure range	from -170 °C to 50 °C
Scanning ramp	0,001 to 3 °C/min
Precision of regulation	100μ °C
Sample volume	10 to 100 μL
Capture sensor	High sensitive patented sensor
Sensitivity	at 0 °C, 700 μV/mW at -150 °C, 300 μV/mW
Dimensions	L*d*h = 700*650*500 mm

ULTIMATE DSC - LT

Unique advantages

Exceptional sensitivity at very low temperatures:
up to 300 μV/mW.

- Isothermal down to -170 °C possible
- Simplified operation : no need for LN₂.
- high throughput with autosampler capability

Applications

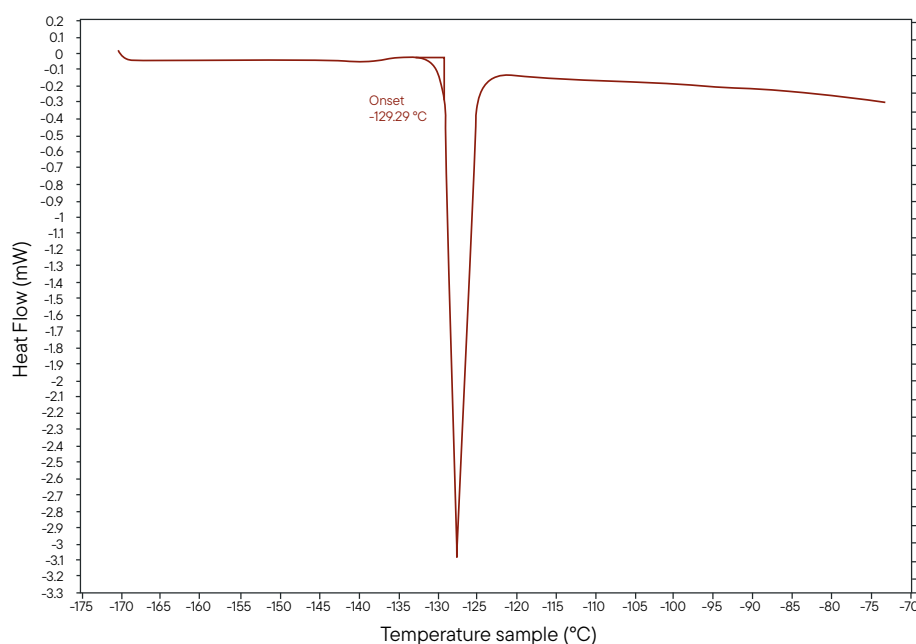
The Ultimate DSC-LT offers revolutionary performance for materials characterisation. In many materials characterisation applications, reaching sub-ambient temperatures is essential, particularly for :

- Determining glass transitions in amorphous materials.
- The analysis of solid-solid phase transitions, particularly popular in pharmaceutical applications.

These studies often require restrictive cooling systems, with an almost systematic dependence on liquid nitrogen to go below -90°C , a limit imposed by the cooling units of conventional DSCs.

With its innovative cooling system, the UDSC-LT is revolutionizing the field by overcoming this limit and completely eliminating the need for liquid nitrogen. Give your research unprecedented precision and simplicity.

Melting of Methylcyclohexane





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