



## STICKSTOFFSIEDEPUNKT- KALIBRATOR

- **sehr einfache Anwendung**
- **Temperaturbereich  $-196^{\circ}\text{C}$**
- **Temperaturstabilität  $\pm 0,002^{\circ}\text{C}$**

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**SKU:** 461

**Category:** [Niedertemperatur-Kalibrator](#)

**BESCHREIBUNG**

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### Simple Liquid N<sub>2</sub> Apparatus Model 461



**Diff to use**  
**Essential**

This model is a lower cost alternative to the 461M 1000. This model is a simple apparatus used for the simultaneous comparison of standard steel (steel) with liquid nitrogen, an insulating foam which houses a highly accurate 100°C and thermometer holder. Lastly, a soft insulated fibrous insulation and permits easy addition of liquid nitrogen.

From time to time extra liquid nitrogen must be added, approximately every 30 minutes, to keep the device full.

The device has a 100mm inside diameter and 320mm deep. The insulating foam houses four (4) 100°C stainless steel thermometers (3 in their in diameter, giving a 0.01°C measurement accuracy).

**Method of operation**  
A standard calibrated SPRT is placed in the insulating block together with the sensors to be calibrated. The whole is allowed to equilibrate.

The steel checked and nitrogen added as necessary and reaching about 78° Celsius (210° Fahrenheit).

The second Simple Liquid Nitrogen Apparatus is set in use having no glass check fluid normally to equilibrate.

A comparison feedback accompanies the apparatus which includes an ability to verify the temperature of the comparison required to compare the calibration to the 100°C point of the target type plate.

**Technical Note:**  
The Simple Liquid Nitrogen Apparatus, because there is an internal fluid container design from the atmosphere increasing the temperature of the boiling point. This is of great importance provided a calibrated SPRT is being used as the reference and simultaneous use of SPRT and also other thermometers are being measured, unless being used as the target itself.


Liquid Nitrogen is not included with the apparatus.

Model	461	Process	100°C
Temperature range	Simple Liquid Nitrogen Apparatus	Process	100°C
Accuracy	0.01°C	Process	100°C



[Datenblatt Stickstoffsiedepunktalibrator](#)

### The Best Comparison Calibration Equipment



Isotech have a range of professionally engineered comparison calibration equipment covering the temperature range -200°C to 1200°C. Isotech have equipment to match the requirements of National Metrology Institutes, Accredited Calibration Laboratories and in house calibration labs.

**Comparison Calibration**  
High comparison calibration is a thermometer with known characteristics is compared to the thermometer to be calibrated. Relying on the "Dewar Law of Thermodynamics".

There are four "Levels of Thermodynamics", the Dewar Law is the "Dewar Law". Forster, it is more fundamental than the other three laws, as it is because it is not in the "Dewar" law.

3. States: "Two systems are in thermal equilibrium, each having the same temperature as a third system, the two systems have the same temperature as each other".

Isotech Comparison-Engineered products are designed to be deep enough to be visible enough and internal surface calibration of available calibration in the smallest of uncertainties. The comparison calibration schedule below is from Isotech's ISO accredited calibration laboratory. The performance is available using Isotech's State and Reference Thermometers.

Calibration by comparison	100 °C to 400 °C	100 °C to 200 °C	100 °C to 100 °C
100 °C to 400 °C	0.01 °C	0.01 °C	0.01 °C
100 °C to 200 °C	0.01 °C	0.01 °C	0.01 °C
100 °C to 100 °C	0.01 °C	0.01 °C	0.01 °C
100 °C to 100 °C	0.01 °C	0.01 °C	0.01 °C
100 °C to 100 °C	0.01 °C	0.01 °C	0.01 °C

Evaluation reports describing the performance of Isotech equipment are freely available.

[Best Comparison Calibration](#)



