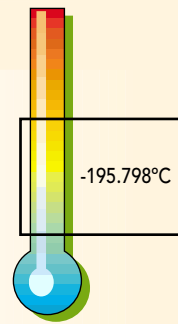


Simple Liquid N₂ Apparatus

Model 461



In databook 1 we describe a sealed - apparatus for the boiling point of Nitrogen or Argon.

It is possible for most uses to construct a simple apparatus open to the atmosphere comprising a stainless steel dewar flask filled with liquid Nitrogen, an insulating layer which houses a metallic equalising block and thermometer holder. Lastly a split insulated lid reduces evaporation and permits easy addition of liquid Nitrogen.

From time to time extra liquid Nitrogen must be added, approximately every 30 minutes, to keep the dewar flask full.

The dewar flask is 100mm inside diameter and 280mm deep. The standard equalising block houses four SPRT's or industrial thermometers up to 8mm in diameter, giving $\pm 0.002^\circ\text{C}$ temperature uniformity.

Method of Operation

A standard calibrated SPRT is placed in the equalising block together with the sensors to be calibrated. The whole is allowed equilibrate.

The level is checked and Nitrogen added as necessary and readings taken 10 minutes afterwards.

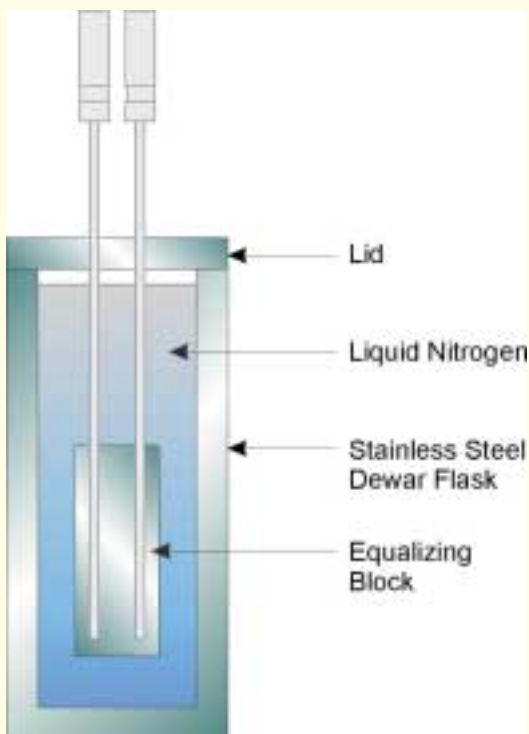
The Isotech Simple Liquid Nitrogen Apparatus is safe to use, having no glass dewar flask internally to explode.

A comprehensive handbook accompanies the apparatus which includes an article by Henry E. Sostmann on the corrections required to convert the calibration to the ITS-90 value of the Argon Triple Point.

Technical Note:

The Simple Liquid Nitrogen Apparatus, because there is air access will slowly condense oxygen from the atmosphere increasing the temperature of the Boiling Point.

This is of small importance provided a calibrated SPRT is being used as the reference and simultaneous ratios of SPRT and unknown thermometers are being recorded, as in our TTI-2 or the F700.



Model No.	461 Simple Liquid Nitrogen Apparatus
Temperature Range	Nominal -195.798°C depending on the pressure and liquid Nitrogen purity
Thermometer Wells	Four 8mm Inside Diameter wells as standard, others available to special order
Dewar flask inside dimensions	100mm inside diameter 280mm deep
Temperature Uniformity	Typically $\pm 0.002^\circ\text{C}$
Volume	3 litres Note: Liquid Nitrogen is not included with the apparatus

How to order

461 Simple Liquid N₂ Apparatus