

Low-Temperature Metrology Furnace

Model 17701

The Isotech Low-Temperature Metrology Furnace is designed specifically to realize and maintain the freeze plateaus of Indium, Tin and Zinc Fixed Point Cells, for calibration of thermometers on the International Temperature Scale of 1990.

The Low-Temperature Furnace is a single-zone furnace.

The recommended procedure for establishing a freeze plateau requires operator attention until the plateau is realized. Following that, the Model 17701 Furnace will maintain the indium or the tin plateau, essentially automatically, for a period of 10 to 12 hours and the zinc plateau for 6 to 8 hours.

The furnace core, into which the freeze-point cell is inserted, is of aluminum alloy, which provides a very low thermal gradient along the core length. The main furnace heater is of the parallel-tube design as used at NIST. A pre-warming tube is provided.

An advanced proportioning digital control system regulates the furnace temperature, using a platinum resistance thermometer as it's sensing element. The control may be calibrated in-situ using Freeze Point Cells as references.

Two entirely independent over-temperature safety devices are included. A dedicated (on-off) over-temperature control circuit provides active safety. A fusible link in the main power circuit provides passive safety.

The Low-Temperature Furnace is completely self-contained, castor mounted and requires no external supplies (except power).

Features

Fixed Points:

- Indium 156.5985°C
- Tin 231.928°C
- Zinc 419.527°C
- 6 to 12 Hour Plateaus
- Annealing Adapter
- Active and Passive Safety Circuits



Annealing adapter

SPECIFICATIONS

Model	ITL-M-17701
Temperature Range	50°C to 500°C
Accuracy	See the Fixed-Point Cell details on page 17
Control	0.1°C Resolution
Communications	Included as standard
Power	1.5kW, 108-130 or 208-240VAC, 50/60Hz
Dimensions	960mm x 600mm x 560mm (HxWxD)
Weight	254 lbs (115.2kg)

ACCESSORIES

411-01-11	Annealing Adapter
824-01-00	Fan Assembly

HOW TO ORDER

ITL-M-17701	Low-Temperature Metrology Furnace
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