

## The Variable Temperature Cell

### The Variable Temperature Cell

*For the analysis of liquids or solids between -190°C and 250°C*

#### Applications

- **Analysis under extreme** temperature conditions
- Absorption band study at low temperatures
- Polymerization studies
- Phase transition studies
- Reaction kinetics
- Polymorphism
- Catalysis
- Oxidation studies

#### Product Highlights

- Programmable controlled temperatures from -190 °C to 250 °C (Stability  $\pm 0.1^\circ\text{C}$ )
- Dewar cooling system
- Heated external windows prevent condensation
- Flow mode for liquids
- Solid sample gas exchange capability
- Baseplate or 3" x 2" mounts



The Variable Temperature Cell is the ideal accessory for the transmission study of liquid or solid samples at temperatures ranging from -190 °C to 250 °C.

The Variable Temperature Cell consists of a vacuum jacket with standard NaCl windows. Inside the cell is a refrigerant dewar and cell holder assembly. The cell holder assembly has a built-in heating block for high temperatures. Sample cells are inserted into the cell holder assembly and the whole is operated within a vacuum environment maintained by the outer jacket. Using a combination of refrigerant and control from the cell block heaters any temperature from -190 °C to 250 °C can be achieved. Choice of window materials allows for use of this accessory in the UV, visible and IR regions.

The Variable Temperature Cell is supplied with a high stability controller with an RS232 interface for independent control using a PC.

Special versions of this cell have been designed for use in Raman and Fluorescence applications. These cells use four ports and the samples are contained in cuvettes or bulbs. Please contact your local Specac representative for details

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### Variable Temperature Cell Ordering Information

#### **21525** The Variable Temperature Cell

*Includes refrigerant dewar/cell holder, Vacuum jacket with NaCl windows, Fixed thermocouple (copper-constantan) Low voltage supply cables, and High Stability Temperature Controller with RS232 interface.*

When ordering please specify:

1. 3" x 2" Slide Mount, or spectrometer make and model for Baseplate version
2. 220V or 110V and country of final destination.

Requires, but does not include, a liquid, solid, or solid/gas exchange sample holder.

### *Variable Temperature Cell Windows (Jacket)*

**20800** Pair of NaCl windows

**20801** Pair of KBr windows

**20802** Pair of CaF<sub>2</sub> windows

**20803** Pair of BaF<sub>2</sub> windows

**20896** Pair of ZnSe windows

### *Variable Temperature Cell Spares*

**20200** Thermocouple (copper-constantan)

**20810** Replacement set of O-rings

