

## Variable Temperature Cell Holder

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



The Variable Temperature Cell Holder is the ideal accessory to use for the transmission study of liquid or solid samples between a temperature range from -190°C and 250°C.

(The temperature achievable will be dependant on the type of sample cell used).

The Variable Temperature Cell Holder consists of a vacuum jacket that contains a refrigerant dewar/cell holder assembly and a heating block that contains the appropriate cell.

The whole assembly is operated within a vacuum environment maintained by the outer jacket. The external windows are also heated to prevent condensation and these and the heating block are operated by a separate high stability controller supplied with the system.

Using a combination of refrigerant and control from the cell block heaters, any temperature from -190°C to 250°C can be achieved. Stability of the temperature is best maintained by using a refrigerant close to the target temperature. NaCl windows are fitted as standard providing a useful spectral range from 40,000 to 600  $\text{cm}^{-1}$  making them suitable for most studies from UV to Mid-IR. Other window materials are available for studies outside of this range.

Special versions of this cell have been designed for use in Raman and Fluorescence applications. These cells use four window ports and samples are contained in cuvettes or bulbs.

### Features

- Programmable, controlled temperatures from -190°C to 250°C
- Dewar cooling system
- Heated external windows prevents condensation
- Can be converted to flow mode for liquids
- Baseplate or 3" X 2" mount

### Applications

- Analysis under extreme temperature conditions
- Absorption band studies
- Polymerization studies
- Phase transition studies
- Reaction kinetics
- Polymorphism
- Catalysis
- Oxidation studies

• Illustrations, descriptions and specifications in this data sheet were correct at the time of going to press. However, Specac's policy is one of continuous product development and we reserve the right to change descriptions and specifications at any time. For the latest details please contact your local Specac office or representative.

# Variable Temperature Cell Holder

## Ordering Information

Part no.	Description
GS21525*	Variable Temperature Cell Holder complete with temperature controller and NaCl windows. <i>Please specify spectrometer make and model for baseplate and voltage and country for temperature controller &amp; RS232, RS485 or USB connection if required</i>
GS21530*	Variable Temperature Cell Holder Four Port Cuvette version complete with temperature controller and Fused Silica UV grade windows. <i>Specify voltage and country for temperature controller &amp; RS232, RS485 or USB connection if required</i>
GS20800 GS20801 GS20802 GS20803 GS20896 GS20898	<b>External Windows for VT Cell</b> Pair of NaCl windows for Variable Temperature Cell Holder jacket Pair of KBr windows for Variable Temperature Cell Holder jacket Pair of CaF2 windows for Variable Temperature Cell Holder jacket Pair of BaF2 windows for Variable Temperature Cell Holder jacket Pair of ZnSe windows for Variable Temperature Cell Holder jacket Pair of Fused Silica UV grade windows for Variable Temperature Cell Holder jacket
GS20500 GS20501 GS20502 GS20503 GS20508	<b>Static Liquid Cells</b> (Suitable for temperatures from -190C to 250C) Sealed, Heatable Liquid Cell with NaCl windows <i>Please select pathlength - 0.025mm, 0.05mm, 0.1mm, 0.2mm, 0.5mm or 1.0mm</i> Sealed, Heatable Liquid Cell with KBr windows <i>Please select pathlength - 0.025mm, 0.05mm, 0.1mm, 0.2mm, 0.5mm or 1.0mm</i> Sealed, Heatable Liquid Cell with CaF2 windows <i>Please select pathlength - 0.025mm, 0.05mm, 0.1mm, 0.2mm, 0.5mm or 1.0mm</i> Sealed, Heatable Liquid Cell with BaF2 windows <i>Please select pathlength - 0.025mm, 0.05mm, 0.1mm, 0.2mm, 0.5mm or 1.0mm</i> Sealed, Heatable Liquid Cell with ZnSe windows <i>Please select pathlength - 0.025mm, 0.05mm, 0.1mm, 0.2mm, 0.5mm or 1.0mm</i>
GS20610	<b>Solid Cell</b> (Suitable for temperatures from -190C to 250C ) Solid Cell Holder for samples sizes from 12mm to 30mm diameter and 0.1mm to 8mm thick

The following Liquid Flow Cells and High Pressure Liquid Cells require the customer fitted VT Flow Cell Kit

GS20080	<b>VT Flow Cell Kit</b>
GS20560 GS20561 GS20562 GS20563 GS20566	<b>Liquid Flow Cells</b> (Suitable for temperatures from -190C to 250C ) Sealed, Heatable Liquid Flow Cell with NaCl windows <i>Please select pathlength - 0.025mm, 0.05mm, 0.1mm, 0.2mm, 0.5mm or 1.0mm</i> Sealed, Heatable Liquid Flow Cell with KBr windows <i>Please select pathlength - 0.025mm, 0.05mm, 0.1mm, 0.2mm, 0.5mm or 1.0mm</i> Sealed, Heatable Liquid Flow Cell with CaF2 windows <i>Please select pathlength - 0.025mm, 0.05mm, 0.1mm, 0.2mm, 0.5mm or 1.0mm</i> Sealed, Heatable Liquid Flow Cell with BaF2 windows <i>Please select pathlength - 0.025mm, 0.05mm, 0.1mm, 0.2mm, 0.5mm or 1.0mm</i> Sealed, Heatable Liquid Flow Cell with ZnSe windows <i>Please select pathlength - 0.025mm, 0.05mm, 0.1mm, 0.2mm, 0.5mm or 1.0mm</i>
GS05910 GS05915 GS05920 GS05925	<b>High Pressure Liquid Cells</b> (Suitable for temperatures from -15C to 180C) High Pressure Short Pathlength Liquid Cell with ZnSe, Sapphire or Spectrosil B windows at 2000psi pressure rating. <i>Please select pathlength - 0.1, 0.2, 0.5, 1.0 or 2.0mm</i> High Pressure Short Pathlength Liquid Cell with Sapphire or Spectrosil B windows at 5000psi pressure rating. <i>Please select pathlength - 0.1, 0.2, 0.5, 1.0 or 2.0mm</i> High Pressure Long Pathlength Liquid Cell with ZnSe, Sapphire or Spectrosil B windows at 2000psi pressure rating. <i>Please select pathlength - 5.0 or 10.0mm</i> High Pressure Long Pathlength Liquid Cell with Sapphire or Spectrosil B windows at 5000psi pressure rating. <i>Please select pathlength - 5.0 or 10.0mm</i>

\* The temperature controller is supplied without any computer connection, if required, please specify RS232, RS485 or USB connection

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