Variable Transmission Cells

by Specac Ltd

Heatable Liquid Cells

- **Designed to be heated or cooled**
  Stainless-steel cells suitable for heating/cooling from 250 to -70° C. An additional measuring thermocouple (not included) can be fitted if required.
- **Flow or Static**
  Static cells are supplied with a Luer fitting for easy sample injection. Flow Cells are fitted with 1/16" Swagelok connections for use with sample pumping systems.
- **Range of Pathlengths**
  0.006 – 1.0 mm
- **Extensive selection of window materials**
  The range of windows cover spectral ranges from the UV to near- and mid-IR.
- **Demountable windows**
  The windows and spacers are removable for cleaning or replacement

Liquid Cell Volume Guide	
Approximate cell volume for given spacers:	
0.006 mm:	1.60 µl
0.025 mm:	6.80 µl
0.10 mm:	27.00 µl
0.50 mm:	135.0 µl
0.012 mm:	3.25 µl
0.05 mm:	13.50 µl
0.20 mm:	54.00 µl

1. Select Cell Configuration			
			
Flow Condition	Static	Flow	Flow
Fittings	Luer Adapter	1/16 inch pipe with Swagelok Union	1/16 inch Swagelok fitting
2. Check Holder Compatibility			
Ambient Cell Holder	Yes	Yes	Yes
Water Heating Jacket	Yes	Yes	Yes
Electrical Heating Jacket	Yes	Yes	Yes
VT Cell	Yes	Yes*	No
**Requires flow tubes for use with the VT Cell (Part-ID 320080)*			
3. Choose Window material (part ID below)			
NaCl	320510	320590	320580
KBr	320511	320591	320581
CaF_2	320512	320592	320582
BaF_2	320513	320593	320583
ZnSe	320519	320594	320586
UV Quartz	320529	Not available	320588
4. Select Pathlenght: material / mm			
Mylar	0.006 /0.012 /0.025		
PTFE	0.05 /0.1 /0.2 /0.5 /1.0 /10		
There are spare windows and spacers available. Please contact us for more information.			

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Variable Transmission Cells

by Specac Ltd

Heatable Solid Cells

- **Designed to be heated or cooled**
  Stainless-steel cells suitable for heating/cooling from 250 to -190° C. An additional measuring thermocouple (not included) can be fitted if required.
- **Variable aperture size**
  Sample diameters from 12 to 30 mm diameter, up to 8mm thick. The size can be varied with sample pressure plates.
  With electrical heating jacket: 12 to 28 mm diameter, up to 3 mm thick.



Heatable Solid Cells

1. Select Cell Configuration		
Flow Condition	Statisch	Statisch
Window Configuration	Keine	Keine
Aperture in mm (sample diameter)	10 (12-28)	10 (12-17) 15 (17-22) 20 (22-30)
Sample Max Thickness in mm	3	8
2. Check Holder Compatibility		
VT Cell	No	Yes
Electrical Heating Jacket	Yes	No
Water Heating Jacket	Yes	Yes
Ambient Cell Holder	Yes	Yes
Part ID		
	320600	320610

Cell Holders



Ambient Cell Holder
Basic 3”x2” inch cell mount for the heatable cell range.

Art.-Nr.: 320740



Water Heating Jacket
Heated cell holder for analysis from ambient temperature up to 90 °C using a circulating fluid for heating. Temperature control of the sample holder is reliant upon this thermocirculating system.

Art.-Nr.: 320710



Electrical Heating Jacket
Heated cell holder for analysis from ambient to temperature up to 250 °C.

Including temperature controller (optional PC Communication available).

Water cooling, necessary for thermostatic control, acts as a thermal insulator and prevents heat transfer to the spectrometer via the standard 3”x2” inch mount.

Art.-Nr.: 320730

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Variable Transmission Cells

by Specac Ltd

Variable Temperature (VT) Cell Holder

The Variable Temperature Cell Holder is the ideal accessory to use for the transmission study of liquid or solid samples over a broad range of temperatures.

The cell consists of a vacuum jacket that contains a refrigerant dewar/cell holder assembly and a heating block that contains the appropriate cell, and allows variable temperature over the range from -190°C to 250°C.

NaCl windows are provided as standard on the cell holder, but a range of other UV, Vis, NIR and Infrared transmitting window materials are also available. This transmission cell holder is designed for use with Specac's Advanced Liquid or Solid Transmission Cells. The cell holder is installed into an optical spectrometer sample compartment either via the 3" x 2" slide mounting plate, or with a Benchmark™ baseplate.

Note that this accessory requires an appropriate sample cell for its use, and that the temperature range of this transmission cell should be considered in its use.
The range of liquid cells available for the VT Cell (see chart on page 1) can be cooled down to -70 °C.
The solid cell (see chart on page 2) is able to withstand -190 °C.



VT Cell Holder Assembly

Compatible Cell Options	
320610	*Solid Cell (-190 to 250 °C) (see page 2 for details)*
320510 / 320511 320512 / 320513 320519 / 320529	Liquid Cells (static) (-70 to 250 °C) *(see page 1 for details)*
320590 / 320591 320592 / 320593 320594	Liquid Cells (flow) in combination with the VT Flow Cell Kit (-70 to 250 °C) *(see page 1 for details)*



VT Cell Holder

Four Port Variable Temperature Cuvette Holder

The Variable Temperature Cuvette Holder is a four-port version of the standard Variable Temperature Cell Holder, designed to accommodate quartz glass cuvettes of up to 10 mm pathlength. This cell holder is intended for liquid sample Raman, Fluorescence, and UV spectroscopic analysis.

The four-port nature of the design means that collection of the (scattered) radiation can be at a 90° angle to the incident radiation as well as at a 180° angle as measured with a standard configuration.

This version of the VT Cell has a pair of UV-grade fused silica windows provided as standard for two of the cell holder windows, and the other two window ports are fitted with blank (metal) windows..

Order information	
321525	VT Cell Holder with temperature controller and NaCl windows incl. baseplate for your spectrometer
321530	VT Cell Holder Four Port Cuvette with temperature controller and Fused Silica windows incl. baseplate for your spectrometer
320080	VT Flow Cell Kit
External Windows for VT Cell	
320800	NaCl window pair
320801	KBr window pair
320802	CaF_2 window pair
320803	BaF_2 window pair
320896	ZnSe window pair
320898	Fused Silica UV grade window pair

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