

Omni Cell System

A Universal Transmission Cell for the analysis of liquids and mulls in FTIR or Dispersive Spectroscopy



The Omni-Cell™ System is a novel approach to the analysis of liquid samples in transmission spectroscopy - one cell is suitable for all applications.

The cells are compatible with all FTIR Spectrometers, as well as older dispersive systems. They can be configured easily for use as demountable liquid cells, permanently sealed liquid cells, or as mull cells.

Transmission is well established as a technique for analyzing samples in the infrared. The choice of window material, pathlength, and window configuration are determined by the sample and wavelength range of interest.

Samples can be analyzed neat or diluted with an appropriate solvent. For quantitative analysis, the sample is often analyzed in a cell with a known pathlength. A guide to the selection of the correct pathlength for various concentrations is shown opposite.

Solid samples can be analyzed using the mull technique. The solid is mixed with a mulling agent, such as Nujol, to form a mull. The mull is then analyzed between circular windows.

Features

- Quick to assemble and change windows
- Windows and Spacers compatible with older cells
- FTIR and Dispersive compatibility
- Quick release clamping mechanism
- Low cost and reliable
- Wide choice of window materials

Applications

Demountable Cells

- General Purpose
- All liquids
- Quantitative analysis

Sealed Cells

- Volatile liquids
- Quantitative applications
- Low viscosity liquids

Mull Cells

- High viscosity liquids
- Gels and pastes
- Oils and greases
- Solids suspended as mulls

Analytical concentration	Typical pathlength
> 10%	0.05 mm
10% - 1%	0.1 mm
1% - 0.1%	0.2 mm
< 0.1%	> 0.5mm

• 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.

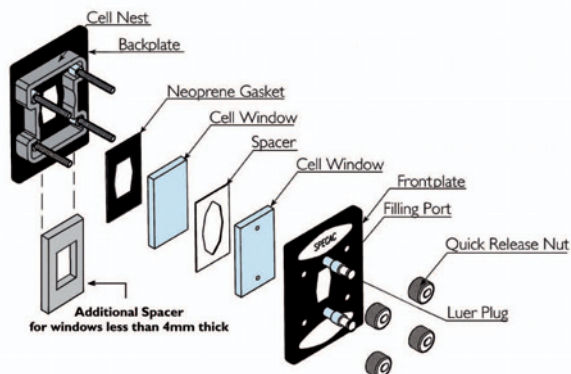
Omni Cell System

Demountable Cell

This is a general-purpose cell for all liquids. It has the advantage of being easy to dismantle for cleaning, and for changing windows and spacers.

Applications

- General purpose
- All liquids
- Quantitative analysis

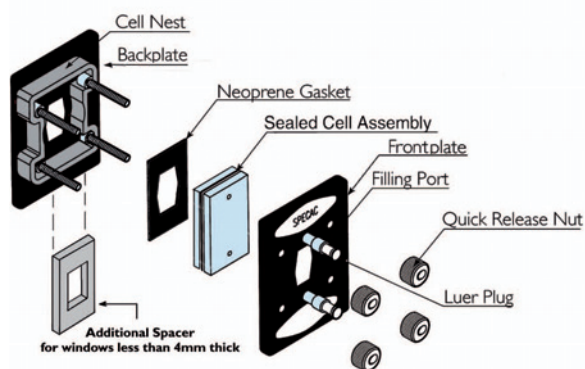


Sealed Cell

The window pair and spacer are amalgamated as an assembly. The advantages of this cell are a constant pathlength for quantitative analysis and suitability for use with volatile liquids.

Applications

- Volatile liquids
- Quantitative applications
- Low viscosity liquids

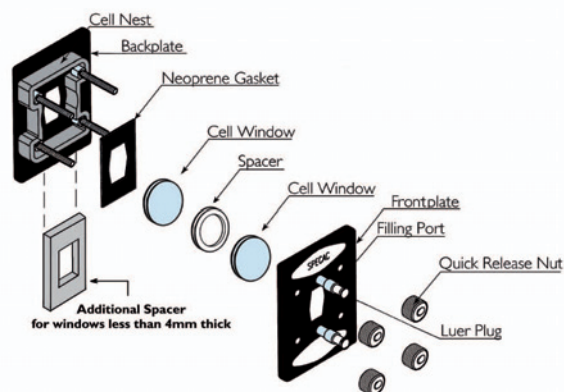


Mull Cell

The Mull Cell does not use the standard liquid filling ports. The sample is placed directly onto one of the circular windows and the other window is then placed on top. The advantage is that very viscous liquids, gels and pastes can easily be analyzed.

Applications

- High viscosity liquids
- Gels and pastes
- Oils and greases
- Solids suspended as mulls



Ordering Information

Ordering an Omni-Cell is easy - just order the Universal Omni-Cell Body, and buy the windows and spacers (detailed on the following page) to suit your application.

Universal Omni-Cell Body

GS01800

The Omni-Cell Body. Includes front and back plates, cell nest, 4 quick release nuts, bonded front PTFE gasket, rear neoprene gasket and 2 PTFE Luer plugs.

Ordering information

Demountable Liquid Omni-Cell Window Pairs (Rectangular) 41mm x 23mm

GS01810	NaCl Liquid Omni Windows
GS01811	KBr Liquid Omni Windows
GS01812	CaF2 Liquid Omni Windows
GS01813	BaF2 Liquid Omni Windows
GS01814*	ZnSe Liquid Omni Windows
GS01815	KRS-5 Liquid Omni Windows
GS01816	CsI Liquid Omni Windows
GS01817	CsBr Liquid Omni Windows
GS01818*	Silica (IR) Liquid Omni Windows
GS01819*	AgBr Liquid Omni Windows
GS01820*	Silicon Liquid Omni Windows
GS01821*	Polythene Liquid Omni Windows

Liquid Omni-Cell Spacers (Rectangular)

GS01850	0.05mm PTFE Spacers (5)
GS01851	0.10mm PTFE Spacers (5)
GS01852	0.20mm PTFE Spacers (5)
GS01853	0.50mm PTFE Spacers (5)
GS01854	1.00mm PTFE Spacers (5)
GS01855	0.025mm Lead Spacers (5)
GS01856	0.05mm Lead Spacers (5)
GS01857	0.10mm Lead Spacers (5)
GS01858	0.20mm Lead Spacers (5)
GS01859	0.50mm Lead Spacers (5)
GS01860	1.00mm Lead Spacers (5)
GS01861	0.006mm Mylar Spacers (5)
GS01862	0.012mm Mylar Spacers (5)
GS01863	0.025mm Mylar Spacers (5)
GS01864	Assorted PTFE Spacers

2 of each thickness supplied

Permanently Sealed Omni-Cell Window Units (Rectangular With Lead Spacer)

The table below gives the part numbers of the Sealed Cell Assemblies.

These assemblies require, but do not include, the Omni-Cell Body (01800)

Material	0.025 mm	0.05mm	0.10mm	0.20mm	0.50mm	1.00mm
NaCl	GS01910	GS01920	GS01930	GS01940	GS01950	GS01960
KBr	GS01911	GS01921	GS01931	GS01941	GS01951	GS01961
CaF2	GS01912	GS01922	GS01932	GS01942	GS01952	GS01962
BaF2	GS01913	GS01923	GS01933	GS01943	GS01953	GS01963
ZnSe*	GS01914	GS01924	GS01934	GS01944	GS01954	GS01964
KRS-5	GS01915	GS01925	GS01935	GS01945	GS01955	GS01965
CsI	GS01916	GS01926	GS01936	GS01946	GS01956	GS01966
CsBr	GS01917	GS01927	GS01937	GS01947	GS01957	GS01967
Silica (IR)*	GS01918	GS01928	GS01938	GS01948	GS01958	GS01968

Silicon, AgBr and Polythene are not offered as permanently sealed cell units. All rectangular window pairs and assemblies consist of one drilled and one undrilled window. *All windows are 4 mm thick except ZnSe, Silica (IR), AgBr and Si, which are 2 mm thick, and Polythene which are 3 mm thick. These windows require the additional rear spacer for thin windows (01893).

Spares

GS01110	Luer Syringe (2ml)
GS01890	Rear Neoprene Gaskets (2)
GS01891	Quick Release Nuts (4)

Mull Omni-Cell Window Pairs (Circular) 25mm Dia

GS01830	NaCl Mull Omniwindows
GS01831	KBr Mull Omni Windows
GS01832	CaF2 Mull Omni Windows
GS01833	BaF2 Mull Omni Windows
GS01834*	ZnSe Mull Omni Windows
GS01835	KRS-5 Mull Omni Windows
GS01836	CsI Mull Omni Windows
GS01837	CsBr Mull Omni Windows
GS01838*	Silica (IR) Mull Omni Windows
GS01839*	AgBr Mull Omni Windows
GS01840*	Silicon Mull Omni Windows
GS01841*	Polythene Mull Omni Windows

Mull Omni-Cell Spacers (Circular)

GS01870	0.05mm PTFE Spacers (5)
GS01871	0.10mm PTFE Spacers (5)
GS01872	0.20mm PTFE Spacers (5)
GS01873	0.50mm PTFE Spacers (5)
GS01874	1.00mm PTFE Spacers (5)
GS01875	0.025mm Lead Spacers (5)
GS01876	0.05mm Lead Spacers (5)
GS01877	0.10mm Lead Spacers (5)
GS01878	0.20mm Lead Spacers (5)
GS01879	0.50mm Lead Spacers (5)
GS01880	1.00mm Lead Spacers (5)
GS01881	0.006mm Mylar Spacers (5)
GS01882	0.012mm Mylar Spacers (5)
GS01883	0.025mm Mylar Spacers (5)

* These windows require additional spacer P/N **GS01893**

GS01892	Luer Plugs for Omni-Cell (2)
GS01893	Spacer for thin windows (1)
GS03620	Bottle of Nujol (25ml)
GS03621	Bottle of Fluorolube (25ml)

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