

The Omni Cell™ System



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

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

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

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.

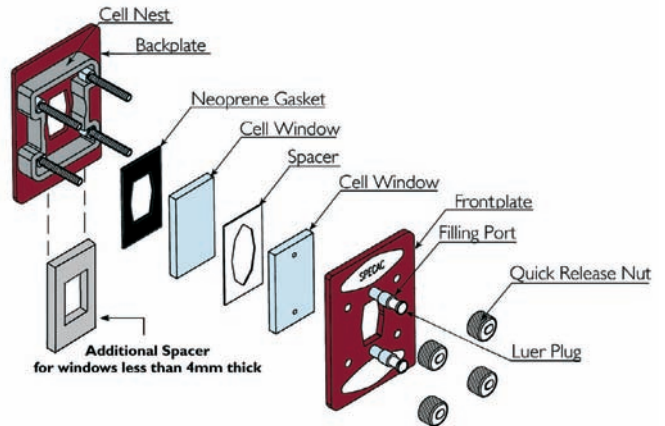
All cells are shipped as a kit of parts, and require assembly.

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

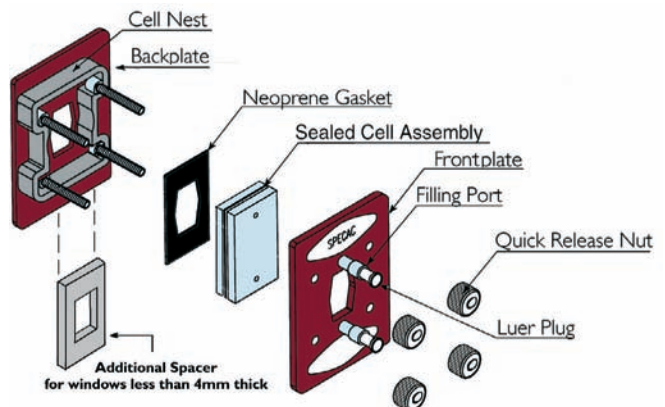


Sealed Cell

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

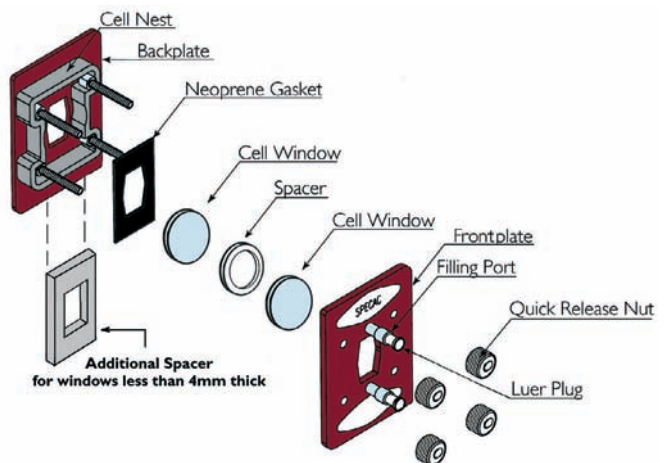


Mull Cell

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 all be analyzed easily.

Applications

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



Ordering Information

Ordering an Omni-Cell is easy. Just order the Universal Omni-Cell Body, then the windows and the spacers to suit your application.

Demountable Liquid Omni-Cell Window Pairs (Rectangular)

01810	NaCl Liquid Omni Windows
01811	KBr Liquid Omni Windows
01812	CaF2 Liquid Omni Windows
01813	BaF2 Liquid Omni Windows
01814	*ZnSe Liquid Omni Windows
01815	KRS-5 Liquid Omni Windows
01816	CsI Liquid Omni Windows
01817	CsBr Liquid Omni Windows
01818	*Silica (IR) Liquid Omni Windows
01819	*AgBr Liquid Omni Windows
01820	*Silicon Liquid Omni Windows
01821	*Polythene Liquid Omni Windows

Liquid Omni-Cell Spacers (Rectangular)

01850	0.05 mm Teflon Spacers (5)
01851	0.10 mm Teflon Spacers (5)
01852	0.20 mm Teflon Spacers (5)
01853	0.50 mm Teflon Spacers (5)
01854	1.00 mm Teflon Spacers (5)
01855	0.025 mm Lead Spacers (5)
01856	0.05 mm Lead Spacers (5)
01857	0.10 mm Lead Spacers (5)
01858	0.20 mm Lead Spacers (5)
01859	0.50 mm Lead Spacers (5)
01860	1.00 mm Lead Spacers (5)
01861	0.006 mm Mylar Spacers (5)
01862	0.012 mm Mylar Spacers (5)
01863	0.025 mm Mylar Spacers (5)

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	01910	01920	01930	01940	01950	01960
KBr	01911	01921	01931	01941	01951	01961
CaF2	01912	01922	01932	01942	01952	01962
BaF2	01913	01923	01933	01943	01953	01963
ZnSe*	01914	01924	01934	01944	01954	01964
KRS-5	01915	01925	01935	01945	01955	01965
CsI	01916	01926	01936	01946	01956	01966
CsBr	01917	01927	01937	01947	01957	01967
Silica (IR)*	01918	01928	01938	01948	01958	01968

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).

Liquid Omni-Cell Spa

01110	Luer Syringe (2 ml)
01890	Rear Neoprene Gaskets (2)
01891	Quick Release Nuts (4)

01892	Luer Plugs for Omni-Cell (2)
01893	Spacer for thin windows (1)
03620	Bottle of Nujol (25 ml)
03621	Bottle of Fluorolube (25 ml)

The Omni Cell™ System

*These windows require additional rear spacer for thin windows (01893)

Mull Omni-Cell Window Pairs (Circular)

01830	NaCl Mull Omni Windows
01831	KBr Mull Omni Windows
01832	CaF2 Mull Omni Windows
01833	BaF2 Mull Omni Windows
01834	*ZnSe Mull Omni Windows
01835	KRS-5 Mull Omni Windows
01836	CsI Mull Omni Windows
01837	CsBr Mull Omni Windows
01838	*Silica (IR) Mull Omni Windows
01839	*AgBr Mull Omni Windows
01840	*Silicon Mull Omni Windows
01841	*Polythene Mull Omni Windows

Mull Omni-Cell Spacers (Circular)

01870	0.05 mm Teflon Spacers (5)
01871	0.10 mm Teflon Spacers (5)
01872	0.20mm Teflon Spacers (5)
01873	0.50 mm Teflon Spacers (5)
01874	1.00 mm Teflon Spacers (5)
01875	0.025 mm Lead Spacers (5)
01876	0.05 mm Lead Spacers (5)
01877	0.10 mm Lead Spacers (5)
01878	0.20 mm Lead Spacers (5)
01879	0.50 mm Lead Spacers (5)
01880	1.00 mm Lead Spacers (5)
01881	0.006 mm Mylar Spacers (5)
01882	0.012 mm Mylar Spacers (5)
01883	0.025 mm Mylar Spacers (5)

THE SOLUTION IS SPECAC WHAT'S THE PROBLEM?

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