

The Omni-Cell System

Specac

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



" The simplest and most versatile IR Cell System available anywhere "

Product Highlights

- 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

Specac have taken a fresh look at IR Liquid Sampling and come up with the Omni-Cell system - one cell for all applications.

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

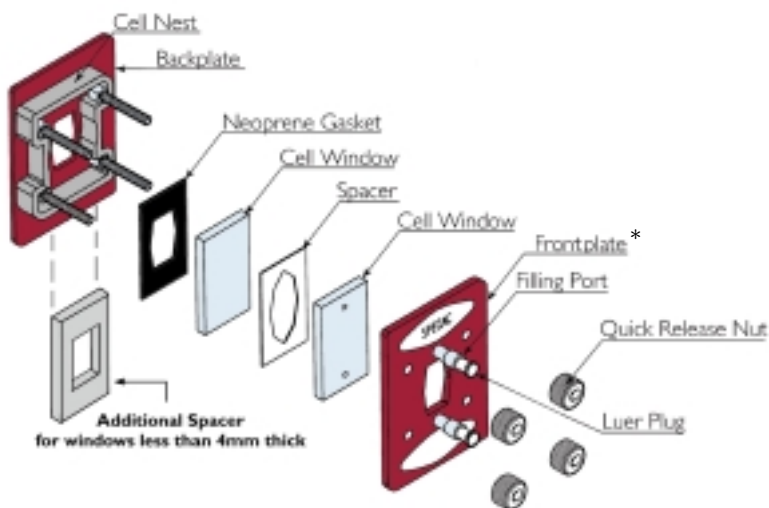
Transmission is a well established technique for analyzing samples in the infrared. The choice of window material, pathlength and window configuration are determined by the sample and wavelength range of interest.

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 given below:

Analytical Concentration	Typical Pathlength
> 10%	0.05mm
10%-1%	0.1mm
1%-0.1%	0.2mm
< 0.1%	>0.5mm

Solid samples can be analyzed by the mull technique. The solid is combined with a liquid paraffin such as Nujol to form a mull which is analyzed between circular windows.

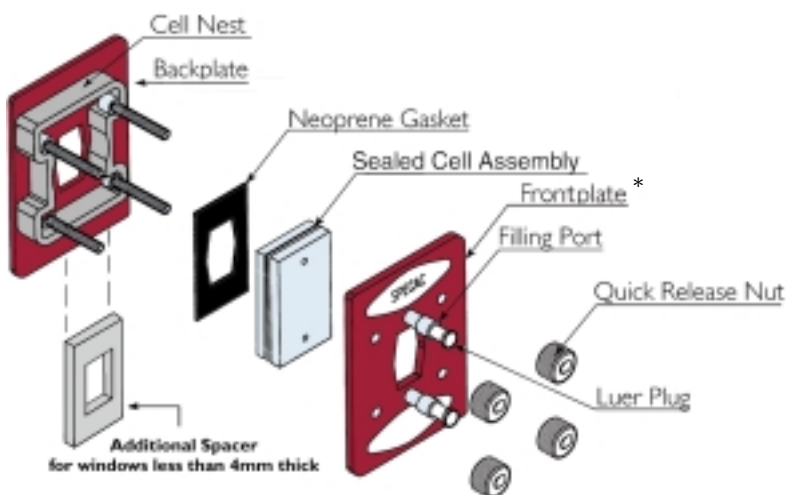


Demountable Cell

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

Applications

- *General Purpose*
- *All liquids*
- *Quantitative analysis*

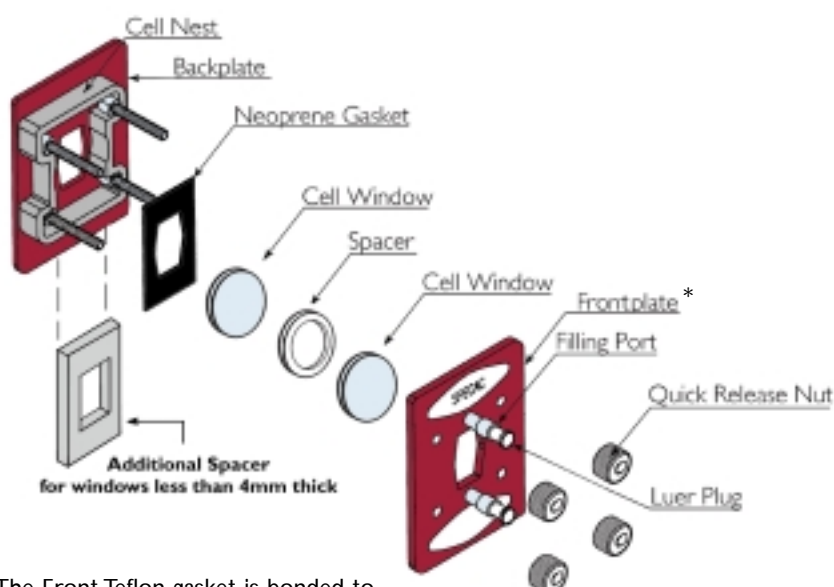


Sealed Cell

The window pair and spacer are sealed by amalgamation. The advantages of this cell are a constant pathlength for quantitative analysis and use with volatile liquids because of the sealed cell assembly.

Applications

- *Volatile liquids*
- *Quantitative applications*
- *Low viscosity liquids*



Mull Cell

The Mull Cell does not use the 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*

* The Front Teflon gasket is bonded to the front plate for ease of assembly

Ordering Information for the Omni-Cell 1800 Series

Ordering an Omni-Cell is easy - just order the Universal Omni-Cell Body, windows and spacers for the application.

Universal Omni-Cell Body

1800 The Omni-Cell Body. Includes front and back plates, cell nest, 4 quick release nuts, rear neoprene gasket and 2 Teflon Luer plugs.

Demountable Liquid Omni-Cell Window Pairs (Rectangular)

1810	NaCl Liquid Omni Windows
1811	KBr Liquid Omni Windows
1812	CaF ₂ Liquid Omni Windows
1813	BaF ₂ Liquid Omni Windows
1814	* ZnSe Liquid Omni Windows
1815	KRS-5 Liquid Omni Windows
1816	CsI Liquid Omni Windows
1817	CsBr Liquid Omni Windows
1818	* Silica (IR) Liquid Omni Windows
1819	* AgBr Liquid Omni Windows
1820	* Silicon Liquid Omni Windows
1821	* Polythene Liquid Omni Windows

Liquid Omni-Cell Spacers (Rectangular)

1850	0.05mm Teflon Spacers (5)
1851	0.10mm Teflon Spacers (5)
1852	0.20mm Teflon Spacers (5)
1853	0.50mm Teflon Spacers (5)
1854	1.00mm Teflon Spacers (5)
1855	0.025mm Lead Spacers (5)
1856	0.05mm Lead Spacers (5)
1857	0.10mm Lead Spacers (5)
1858	0.20mm Lead Spacers (5)
1859	0.50mm Lead Spacers (5)
1860	1.00mm Lead Spacers (5)
1861	0.006mm Mylar Spacers (5)
1862	0.012mm Mylar Spacers (5)
1863	0.025mm Mylar Spacers (5)

Mull Omni-Cell Window Pairs (Circular)

1830	NaCl Mull Omni windows
1831	KBr Mull Omni Windows
1832	CaF ₂ Mull Omni Windows
1833	BaF ₂ Mull Omni Windows
1834	* ZnSe Mull Omni Windows
1835	KRS-5 Mull Omni Windows
1836	CsI Mull Omni Windows
1837	CsBr Mull Omni Windows
1838	* Silica (IR) Mull Omni Windows
1839	* AgBr Mull Omni Windows
1840	* Silicon Mull Omni Windows
1841	* Polythene Mull Omni Windows

Mull Omni-Cell Spacers (Circular)

1870	0.05mm Teflon Spacers (5)
1871	0.10mm Teflon Spacers (5)
1872	0.20mm Teflon Spacers (5)
1873	0.50mm Teflon Spacers (5)
1874	1.00mm Teflon Spacers (5)
1875	0.025mm Lead Spacers (5)
1876	0.05mm Lead Spacers (5)
1877	0.10mm Lead Spacers (5)
1878	0.20mm Lead Spacers (5)
1879	0.50mm Lead Spacers (5)
1880	1.00mm Lead Spacers (5)
1881	0.006mm Mylar Spacers (5)
1882	0.012mm Mylar Spacers (5)
1883	0.025mm Mylar Spacers (5)

* These windows require additional spacer P/N 1893

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

These Sealed Cell Assemblies are used in the Omni-Cell Body P/N 1800

Material	0.025mm	0.05mm	0.10mm	0.20mm	0.50mm	1.00mm
NaCl	1910	1920	1930	1940	1950	1960
KBr	1911	1921	1931	1941	1951	1961
CaF ₂	1912	1922	1932	1942	1952	1962
BaF ₂	1913	1923	1933	1943	1953	1963
ZnSe*	1914	1924	1934	1944	1954	1964
KRS-5	1915	1925	1935	1945	1955	1965
CsI	1916	1926	1936	1946	1956	1966
CsBr	1917	1927	1937	1947	1957	1967
Silica (IR)*	1918	1928	1938	1948	1958	1968
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.						

Spares

1890	Rear Neoprene Gaskets (2)	1893	Spacer for thin windows (1)
1891	Quick Release Nuts (4)	1110	Luer Syringe (2ml)
1892	Luer Plugs for Omni-Cell (2)		

*All windows are 4mm thick except ZnSe, Silica (IR), AgBr and Si which are 2mm and Polythene which are 3mm thick. These windows require the additional spacer for thin windows P/N 1893

Keep windows in top condition with the Specac Window Polishing Kit P/N 4000

This kit contains all the essential materials required to clean and repolish windows to a flatness within a few fringes.

Repolishing can be achieved efficiently and economically with a minimum degree of skill.

Full instructions are included and all consumable parts are replaceable.

SPECAC INC

500 TECHNOLOGY COURT, SMYRNA, GA 30082 5211
 TEL: 770 803 1106 FAX: 770 319 2488 TOLL FREE: 1-800 447 2558
www.specac.com

SPECAC LIMITED

RIVER HOUSE, 97 CRAY AVENUE, ORPINGTON, KENT BR5 4HE, UK
 TEL: 01689 873134 FAX: 01689 878527
www.specac.com

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