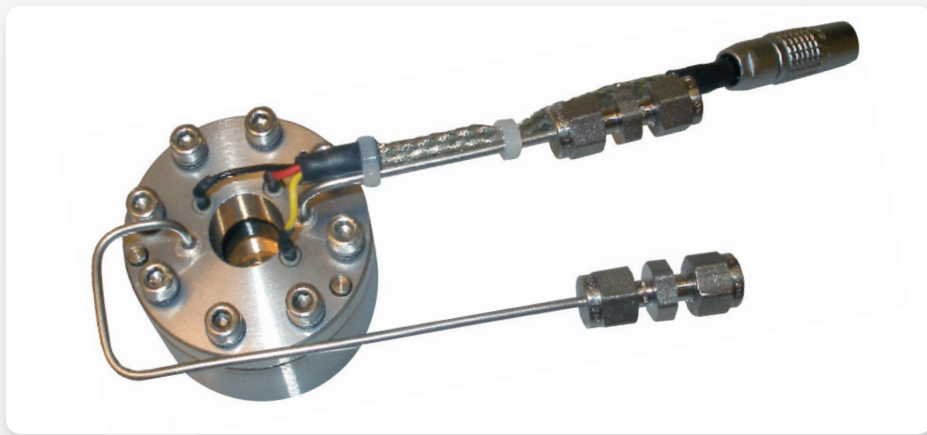


## Spectroelectrochemical Transmission Cell

A versatile, thin-layer optically-transparent electrode transmission cell for in-situ FTIR Spectroelectrochemical analysis from -50°C to 70°C.



### Spectroelectrochemical Transmission Cell

Spectroelectrochemistry couples the techniques of electrochemistry and spectroscopy. It involves the application of an electric field to a sample whilst simultaneously recording spectroscopic absorption features, and has particular application for monitoring redox-coupled reactions to allow in-situ spectroscopic analysis of electro-generated intermediates and/or products.

The Specac Spectroelectrochemical transmission cell is an FTIR accessory encompassing a thin-layer optically-transparent electrode structure to facilitate electrochemical spectroscopic measurements.

The cell comprises two CaF<sub>2</sub> windows separated by a 100 or 200 micron sample layer, where gold grid working and counter electrodes, and a silver reference electrode, are photolithographically imprinted on the surface of the front window in contact

with the sample. Grid structures with a period of 20 lines/mm are available as standard. Perfluoroelastomer seals are used to ensure chemical compatibility with a range of organic solvents, and the demountable cell design allows for ease of cleaning. The cell is air-tight, has a small sample volume (ca 0.3 – 0.6 ml), and can be used in an evacuated environment.

Specac's Spectroelectrochemical transmission cell follows a modular design concept to fit with a range of Specac sample holders. In particular, the cell is compatible with Specac's Standard Cell Holder, Variable Temperature Cell holder, Water Heating/Cooling jacket, and Electrical Heating jacket, to allow Spectroelectrochemical transmission measurements from – 50°C to 70°C.

### Ordering Information

**GS20900** Spectroelectrochemical Transmission Cell

*Note: This cell includes both 100 micron and 200 micron spacer options, and is shipped configured at 200 microns*

### Key Features & Benefits

- Demountable cell design for ease of cleaning
- Modular design to fit a range of sample holders to facilitate operation from -50°C to 70°C
- Gold working and counter electrodes imprinted on cell window
- Perfluoroelastomer seals to ensure compatibility with a range of solvents
- Calcium fluoride windows for UV and IR applications
- 100 and 200 micron optical pathlengths

### Cell Holders (one required)

- GS20740** Sample Cell ambient temperature holder with 3" x 2" backplate mount
- GS20710** Water Heating Jacket
- GS20730** Electrically Heated Jacket + temperature controller\*
- GS21525** Variable Temperature Cell + temperature controller\*\*

*Notes: \*specify country; \*\*Includes NaCl windows (pair) for jacket; must specify country for controller power cables and spectrometer for baseplate*

### Associated and replacement parts

- GS20907** Pair of external perfluoroelastomer seals
- GS20908** Pair of internal perfluoroelastomer seals
- GS20909** Rear CaF<sub>2</sub> window
- GS20910** Front CaF<sub>2</sub> window (with electrode)
- GS20980** Variable Temperature Cell flow fittings kit
- GS20200** Variable Temperature Cell spare thermocouple (T-type Copper/CopperNickel)
- GS20802** Variable Temperature Cell replacement CaF<sub>2</sub> windows (pair) for jacket

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