

## AW-BEQATQ

### Generic Air-tight 14 mm EQCM In-batch Cell

- For 14 mm QCM wrapped sensors
- For EQCM applications where airtight conditions are needed
- Apt for volatile samples/electrolyte and long experimental runs
- Versatile electrode configuration

#### General specifications

Sensor	14 mm QCM wrapped sensor
Connector	AWS connection
Dimensions	47 (L) x 33 (W) x 46 (H) mm
Volume	Max. sample volume: 3 mL 2 mL would fill top of sensor cylinder, without contacting the steel rods
Assembly mechanism	Quick-Lock
Pressure rating	Low vacuum – 2 bar
Glove operation	box Allows assembly in controlled atmosphere; small size to easily transfer it inside/outside the glovebox
Seal	Liquid-tight seal prevents evaporation for weeks

#### Materials

Cell base	Aluminum
Sample and lid	contact PEEK & stainless steel (electrode rods)
O-ring	FFKM (sample, lid)

#### Electrodes

User electrode	2-electrodes cell / 3-electrodes cell)
	Stainless steel screw-based lock at contact rods for mesh, wire, foil electrode attachment

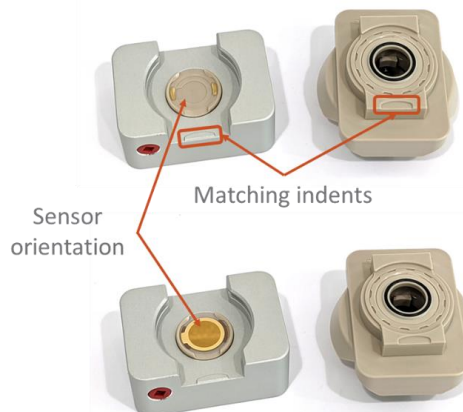


# Cell Assembly

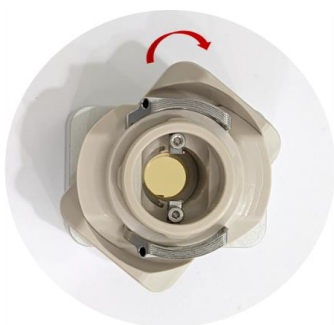
- Cell assembly inside glovebox; operation outside glovebox.
- Quick-lock assembly of the cell; upper lid fixed by rotating a quarter of a turn.



**1** Use the tool provided for opening the window lid before opening the cell.



**2** With the cell open, place the sensor minding the orientation drawn in the sensor bed. Identify and align the matching indents in base and lid of the cell before closing the cell.



**3** To close the cell, first, push lightly the lid into the base (vertically) and then, rotate a quarter of a turn.



OR



**4** Fix your electrode in the steel rods at the sides of the lid, or use the one placed in the inside face of the window lid.

**5** Fill the cell with the electrolyte, making sure the electrode is covered with liquid and close the window lid with the tool provided.

**6** Place the cell in the instrument and plug the potentiostat leads.  
 (A) With electrode connected to the sides, plug in the outer steel corona.  
 (B) With electrode connected to the window lid, plug in the top of the window lid.



## Cleaning recommendations and maintenance

- Generally, use a soft and clean, lint-free cloth to clean the cell.
- Use solvents that do not attack the cell materials (check chemical compatibility information).
- Do not immerse the cell in liquids.
- Dry the cell with streams of nitrogen gas.
- Avoid touching the seals and contacts to prevent damage and protect them from dust and oil.
- Keep electrical connectors clean by occasionally rubbing ethanol over them.
- Store the cell in its original packaging when not in use.

## Chemical compatibility of materials (guidance)

PEEK

Polyether ether ketone, is a semi-crystalline thermoplastic with excellent mechanical and chemical resistance properties that are retained to high temperatures (up to 260 °C). It is resistant to radiation as well as to a wide range of solvents, both organic and aqueous. With its resistance to hydrolysis, PEEK can withstand boiling water and superheated steam used with autoclave and sterilization equipment at temperatures higher than 250 °C. It is attacked by halogens and strong Brønsted and Lewis acids as well as some halogenated compounds and aliphatic hydrocarbons at high temperatures. It has high resistance to biodegradation.

Perlast®  
(FFKM)

Perlast® (trademark of Precision Polymer Engineering Ltd) is a high-performance perfluoroelastomer material (FFKM). The most chemically resistant elastomer available, a rubber form of PTFE, it displays good properties in applications where purity, high temperatures and retention of sealing force are important.

Components manufactured with other materials may be available for applications with special requirements. Contact us for further information.



Developed in collaboration with the **Laboratoire Interfaces et Systèmes Electrochimiques (CNRS - Sorbonne Université UMR8235)**