ePROBE

BATTERY ANALYSIS TECHNOLOGY SOLUTIONS

PRODUCT INFO SHEET

Specialized Cells and Tools for *In-Situ* and *Operando* NMR Analysis of Battery & Energy Storage Materials

Cell Casings for Battery Assembly

A wide range of modular cells and tools for *in-situ/operando* NMR experiments on battery and energy storage materials is available. The cell dimensions are optimized for the coil variants of our *in-situ/operando* NMR probes to ensure a good filling factor and excellent RF penetration. The *in-situ/operando* NMR cells and accessories are available in various sizes and specialized versions are offered for specific applications, including three-electrode cell experiments, flow chemistry, high-temperature studies, and measurements requiring low ^{1}H-background.

.

Bruker BioSpin
info.brkr@bruker.com

bruker.com

bruker.com

BRUKER

ePROBE

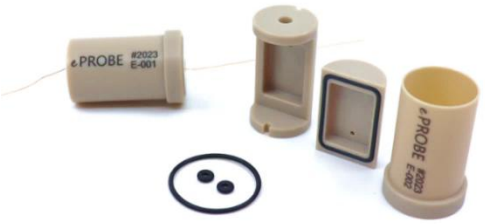
BATTERY ANALYSIS TECHNOLOGY SOLUTIONS

Plastic Cell Capsules

- Modular cylindrical plastic casing to assemble electrochemical cells, while ensuring optimal RF-penetration and a god filling factor.
- Encapsulated to hold cell parts in place and produce moderate pressures, suitable for liquid electrolyte batteries and flow-chemistries.

Standard Plastic Cell Capsules
Material PEEK: highly chemical and mechanical resistance, low ^{19}F-background

PCC-SHORT-OD8:	L 26 mm, OD 8 mm Cavity in top and bottom part: 15 × 4 mm (depth 1 mm)
PCC-SHORT-OD11:	L 26 mm, OD 11 mm Cavity in top and bottom part: 15 × 6 mm (depth 1 mm)
PCC-SHORT-OD11-WF:	L 26 mm, OD 11 mm Cavity in top and bottom part: 15 × 6 mm (depth 1 mm) Tubing in/outlet (ID 1.5 mm) in bottom part for flow-chemistries
PCC-LONG-OD11-WF:	L 40 mm, OD 11 mm Cavity in top and bottom part: 27 × 6 mm (depth 1 mm) Tubing in/outlet (ID 1.5 mm) in bottom part for flow-chemistries
PCC-SHORT-OD15:	L 26 mm, OD 15 mm Cavity in top and bottom part: 15 × 8 mm (depth 2 mm)

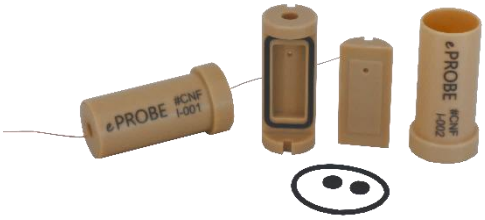


Bruker BioSpin
info.brkr@bruker.com

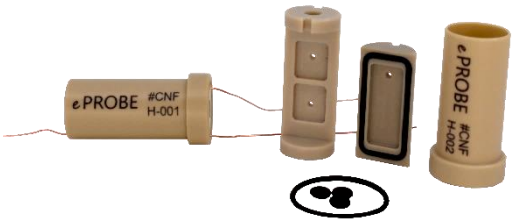
bruker.com

bruker.com

PCC-SHORT-OD11 1-CV:	L 26 mm, OD 11 mm. Other sizes, e.g. OD 15 mm, to be discussed. One deep cavity in bottom part: 15×6 mm (depth 2 mm) for easier alignment of electrodes. Flow in/outlet can be added upon request.



PCC-SHORT-OD11 3-EL	L 26 mm, OD 11 mm. Other sizes, e.g. OD 15 mm, to be discussed. 1 cavity in top part: 15 × 6 mm (depth 1 mm) 2 cavities in bottom part: 7 × 6 mm (depth 1 mm), allowing 3-electrode analysis



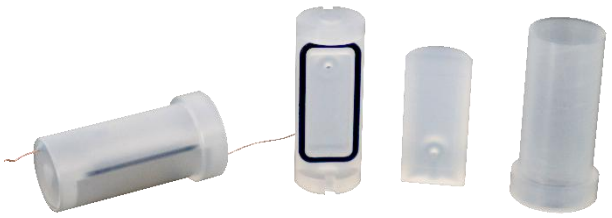
Bruker BioSpin
info.brkr@bruker.com

bruker.com

Low ^{1}H-Background Plastic Cell Capsules
Material: Kel-F, low ^{1}H-background

PCC-SHORT-OD11 1-CV Low-1H: L 26 mm, OD 11 mm.
One deep cavity in bottom part: 15 × 6 mm (depth 2 mm)

All other cell models (including various sizes and flow option) are also available in low ^{1}H-background version.



Bruker BioSpin
info.brkr@bruker.com

bruker.com

BRUKER

ePROBE

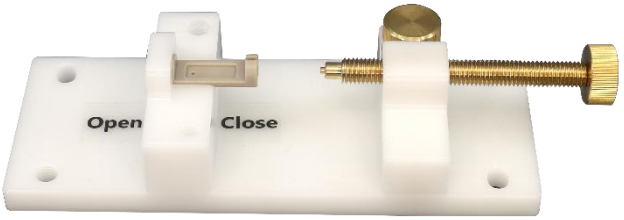
BATTERY ANALYSIS TECHNOLOGY SOLUTIONS

Plastic Cell Capsule Assembly and Disassembly Tool

- Available for cells of three different sizes: OD8, OD11, OD15
- Quick and easy assembly of the plastic cell capsule – even inside a glovebox and under elevated pressure inside the cell
- Prevents misalignment and ripped-off current collectors

Assemble a cell

Assemble your electrode stack in the cavities of the plastic cell capsule:



Close the plastic cell capsule by pushing the capsule over the cavities:

Dissamble a cell

Disassemble the plastic cell capsule by pushing the cavities out of the capsule:

Bruker BioSpin
info.brkr@bruker.com

bruker.com

bruker.com