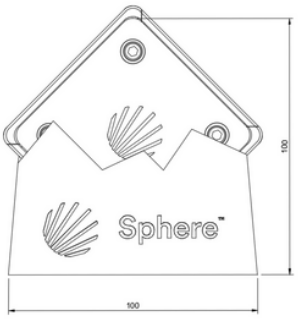


Dimensions: 100 x 70 x 100 mm
Weight: 3.2 kg
Flow rate: 0-150 ml/min

The FLC set

The FLC is a state-of-the-art setup developed to explore electrochemical reactions in flowing electrolytes across a range of different environments. With the FLC, researchers can conduct electrochemical tests on a variety of sample substrates (including metallic, porous, and transparent materials) under the same conditions of electrode distance, positioning, and electrolyte flow. This allows for a direct comparison of the data obtained from different substrates, providing valuable insights into the underlying electrochemical processes.

The setup has been designed for easy assembly, allowing for quick exchange of samples and enhancing experimental throughput. It features an optimized electrolyte flow, with inlets located at the bottom of each compartment and outlets at the top, effectively removing gas products from the cell and preventing the electrochemical reactions from being compromised due to bubble retention between the electrodes. It is also compatible with zero-gap tests and it includes connections to reference electrodes in both sample compartments, offering a convenient connection to an external pump or characterization tool for coupled experiments.

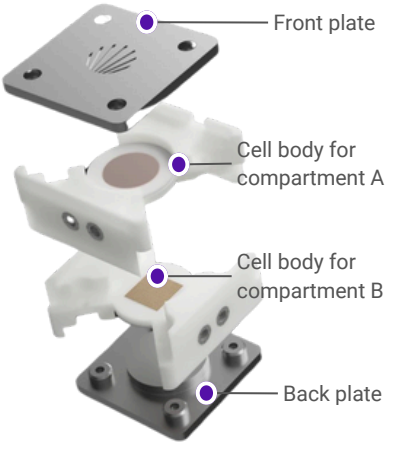
MAIN FEATURES

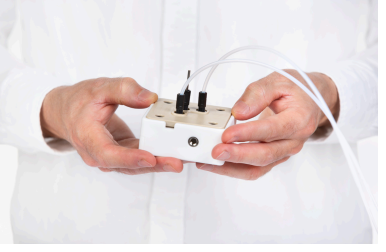
- Multiple substrates types
- Optimized electrolyte flow
- Adapted to multiple membrane geometries
- Dual-reference electrode
- Short electrode distance
- Easy assembly
- Simple pump connection
- MEA compatible

CONFIGURATIONS OVERVIEW

- Standard setup for metallic substrates
- Gas setup for porous substrates
- Light setup for photochemical application

FLC setup contains:
1x Standard Cell body
1x Zero-gap Cell body
1x Cell holder
1x Standard top for metallic substrates
1x Standard bottom for metallic substrates
1x Top for porous samples (carbon felt)
1x Bottom for porous samples (carbon felt)for porous samples (carbon felt)
1x Bottom for porous samples (carbon felt)
1x Top for transparent substrates (ITO/FTO glasses)
1x Set of metallic substrates (Cu), pseudo-reference electrodes, tubes, connectors, tools, sealing gaskets, replacements and accessories





Publications Featuring Our FLC Setup

Phong Duong, H., Rivera de la Cruz, J. G., Portehault, D., Zitolo, A., Louis, J., Zanna, S., ... & Fontecave, M. (2025). Incorporation of isolated Ag atoms and Au nanoparticles in copper nitride for selective CO electroreduction to multicarbon alcohols. *Nature Materials*, 1-7.

McKee, M., Kutter, M., Wu, Y., Williams, H., Vaudreuil, M. A., Carta, M., ... & Kornienko, N. (2025). Hydrophobic assembly of molecular catalysts at the gas–liquid–solid interface drives highly selective CO2 electromethanation. *Nature Chemistry*, 17(1), 92-100.

Amer, M. S., AlOraij, H. A., & Al-Mayouf, A. M. (2024). Facial synthesis of high-performance Ni doped-tin oxide mesoporous for CO2 electroreduction to formate. *Journal of CO2 Utilization*, 82, 102742.

Phong Duong, H., Rivera de la Cruz, J. G., Tran, N. H., Louis, J., Zanna, S., Portehault, D., ... & Fontecave, M. (2023). Silver and copper nitride cooperate for CO electroreduction to propanol. *Angewandte Chemie*, 135(49), e202310788.

Guiet, A., Simonin, A., Bemana, H., Al-Mahayni, H., Li, J., Kuruvinashetti, K., ... & Kornienko, N. (2023). Reversible transition of an amorphous Cu-Al oxyfluoride into a highly active electrocatalyst for NO3− reduction to NH3. *Chem Catalysis*, 3(5).

Duong, H. P., Tran, N. H., Rousse, G., Zanna, S., Schreiber, M. W., & Fontecave, M. (2022). Highly selective copper-based Catalysts for electrochemical conversion of carbon monoxide to ethylene using a gas-fed flow electrolyzer. *ACS Catalysis*, 12(16), 10285-10293.

Huan, T. N., Dalla Corte, D. A., Lamaison, S., Karapinar, D., Lutz, L., Menguy, N., ... & Mougel, V. (2019). Low-cost high-efficiency system for solar-driven conversion of CO2 to hydrocarbons. *Proceedings of the National Academy of Sciences*, 116(20), 9735-9740.