

FLC

One flow cell, one geometry, for every electrode you want to compare.

Metallic, porous and transparent electrodes at the same distance, position and electrolyte flow: differences in your data come from the material, not the setup.



0 to 150

flow rate, ml/min

3 setups

standard, gas, light

2 bodies

standard and zero-gap

3.2 kg

100 × 70 × 100 mm

01 · FLC-Standard

Catalysts on metal

Interchangeable Cu substrates (99.99 %) for deposited or electrodeposited active materials.

02 · FLC-Gas

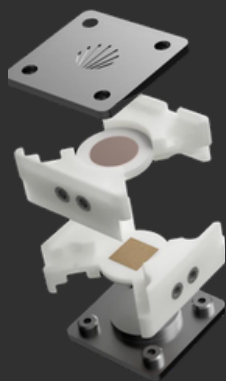
Gas-fed reactions

A gas diffusion electrode takes gas straight through the porous layer while the electrolyte stays in contact.

03 · FLC-Light

Photoelectrochemistry

ITO/FTO glass and an external light source, through a 6 mm light window onto the sample.



built for clean flow data

Bottom-to-top flow

Inlets at the bottom, outlets at the top: gas bubbles leave with the electrolyte.

Dual reference electrode

A reference connection in each compartment.

Zero-gap and MEA ready

Zero-gap cell body for MEA tests.

studied with the FLC

CO ₂ reduction	formate, methane, hydrocarbons
CO reduction	ethylene, propanol, C ₂ , alcohols
Nitrate reduction	ammonia
Solar-driven CO ₂	photoelectrodes

Reactions reported in 7 peer-reviewed studies with the FLC, 2019 to 2025. Full references on page 2.

connects to your lab

Pump	simple tube connection
Potentiostat	reference in each compartment
Analysis	coupled experiments via the outlets

in the box

Standard and zero-gap cell bodies, cell holder
Plates for metallic, carbon felt and ITO/FTO samples
Cu substrates and pseudo-reference electrodes
Tubes, connectors, gaskets, tools and spares

Describe your reaction, electrolyte and electrode.
Our engineers will recommend the matching configuration.

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proven in the lab

Published with the FLC

Seven peer-reviewed studies, 2019 to 2025, in Nature Materials, Nature Chemistry, PNAS, Angewandte Chemie, ACS Catalysis and ACS Applied Materials & Interfaces.

CO₂ reduction

CO, formate,
methane

CO reduction

ethylene, propanol,
multicarbon
alcohols

Nitrate reduction

ammonia

Solar-driven CO₂

hydrocarbons

PET + CO₂

plastic upcycling
by co-electrolysis

references

- 01 Coelectrolysis of PET and CO₂ using an electrochemically restructured Co-MOF-74 anode and a polymeric Co-phthalocyanine cathode
ACS Applied Materials & Interfaces · 2026
- 02 Incorporation of isolated Ag atoms and Au nanoparticles in copper nitride for selective CO electroreduction to multicarbon alcohols
Nature Materials · 2025
- 03 Hydrophobic assembly of molecular catalysts at the gas-liquid-solid interface drives highly selective CO₂ electromethanation
Nature Chemistry · 2025
- 04 Molecular modification of Cu-based electrodes via electrografting: effects of modifier structure on CO₂ electroreduction selectivity
ACS Applied Materials & Interfaces · 2025
- 05 Soft-template synthesis of oxygen vacancy-rich mesoporous SnO₂ for efficient CO₂ electroreduction to formate
Materials Today Sustainability · 2025
- 06 Facial synthesis of high-performance Ni doped-tin oxide mesoporous for CO₂ electroreduction to formate
Journal of CO₂ Utilization · 2024
- 07 Silver and copper nitride cooperate for CO electroreduction to propanol
Angewandte Chemie International Edition · 2023
- 08 Reversible transition of an amorphous Cu-Al oxyfluoride into a highly active electrocatalyst for NO₃⁻ reduction to NH₃
Chem Catalysis · 2023
- 09 Highly selective copper-based catalysts for electrochemical conversion of carbon monoxide to ethylene using a gas-fed flow electrolyzer
ACS Catalysis · 2022
- 10 Low-cost high-efficiency system for solar-driven conversion of CO₂ to hydrocarbons
PNAS · 2019
- 11 Green and straightforward preparation of nano-Ag embedded carbon aerogel catalysts for selective CO₂ electroreduction to CO in neutral aqueous electrolyte
SSRN · preprint
- 12 A modular post-polymerisation route to aminated polybutadienes for electrochemical CO₂ valorisation
ChemRxiv · preprint · 2025

More publications with the FLC are available on request.

Let's build your next result

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