



Product Catalog

Electrochemistry & Spectroscopy Solution for
Research Excellence

About ScienceGears

ScienceGears is a trusted supplier of high-performance electrochemistry and spectroscopy instrumentation for researchers across Australia and New Zealand. Founded and operated by PhD-trained scientists, we pair premium instruments with expert, application-focused support so your team can generate rigorous, reproducible results.

What we do

We specialise in integrated electrochemical and spectroscopic solutions for universities, industry and government laboratories. Our electrochemistry portfolio spans potentiostats and bipotentiostats, multichannel and modular systems, battery cyclers, current boosters, RRDE hardware, corrosion cells, PEM/AEM electrolyser cells and fuel-cell kits - supporting studies in energy storage, electrocatalysis, corrosion and chemical sensing. Our spectroscopy range includes handheld and laboratory Raman (including 785 nm and 1064 nm configurations), Mid-Infrared analysers and LIBS for rapid, non-destructive analysis in research and process environments.

How we work

We take a consultative approach: understanding your methods, targets and constraints, then recommending fit-for-purpose systems and accessories. From initial scoping to installation resources, training and ongoing troubleshooting, our team stays engaged for the long term so you can focus on the science.

Vision and mission

Our vision is to be the partner of choice for electrochemistry and spectroscopy researchers in Australia and New Zealand - fuelling innovation, discovery and scientific progress. Our mission is to deliver premium, scalable systems and long-term collaboration that help teams meet the evolving demands of modern research with integrity, precision and purpose.

People

ScienceGears is led by experienced researchers with deep expertise across electrochemistry, Raman spectroscopy and analytical instrumentation. Our specialists draw on real laboratory experience to align capabilities with your measurement goals, reduce trial-and-error, and support method development across batteries, corrosion, sensors and materials research.

Why researchers choose ScienceGears

- Application-led configurations that match techniques and sample environments
- Modular, scalable pathways from single-channel to multi-technique systems
- Practical resources including data sheets, brochures, software, publications and installation videos
- Responsive, expert support throughout your research journey

ScienceGears — Empowering discovery through science across Australia & New Zealand.

Potentiostats / Galvanostats - Portable

ECSens BIPOT Electrochemical Sensing Interface

MicruX ECSens BIPOT is a compact electrochemical sensing interface integrating a miniature bipotentiostat for screen-printed and microelectrode sensors. It performs core voltammetric and amperometric techniques - V, LSV, DPV, SWV, chronoamperometry and chronopotentiometry - for in-situ analyses in biosensing, teaching labs and rapid field assays. Dual-working-electrode control enables ratiometric detection, mediator studies, and simultaneous measurements for analytical chemistry and materials screening, as well as environmental monitoring, food safety testing, and point-of-care diagnostics.

USB-powered and managed with EC Manager Lite, it offers quick setup and reliable data capture. Lightweight hardware and optional multiplexing scale from single sensors to arrays, while the aluminium enclosure tolerates routine transport between bench and field use.

Key Specifications

- Compliance voltage: ± 2.65 V
- Voltage scan range: ± 1.5 V
- Maximum current: ± 5 mA
- Current ranges: 0.25 μ A to 12.5 mA
- Operating modes: Bipotentiostat, potentiostat
- Dimensions: 39 × 17 × 9 mm



ECStat Electrochemical Station ECSTAT2020

MicruX ECStat is a compact electrochemical workstation that combines a bipotentiostat/galvanostat and an impedance analyser for laboratory and field studies. It executes voltammetric, amperometric, potentiometric and EIS techniques to characterise sensors, electrodes, corrosion systems, and energy materials. The platform readily connects to thin-film and screen-printed electrodes and supports two-electrode and three-electrode configurations, enabling reproducible measurements, rapid method development, and teaching-lab workflows.

USB-powered via USB-C, with MicruX EC Manager software for control and data capture. Aluminium housing and stable ranges deliver reliable results; compact size and accessories support scalable deployments.

Key Specifications

- Compliance voltage: ± 10 V
- Voltage scan range: ± 10 V
- Maximum current: ± 30 mA
- Current ranges: 100 pA to 10 mA
- EIS frequency: 10 μ Hz to 1 MHz
- Operating modes: bipotentiostat, potentiostat, ZRA, galvanostat, PEIS



Potentiostats / Galvanostats - Portable

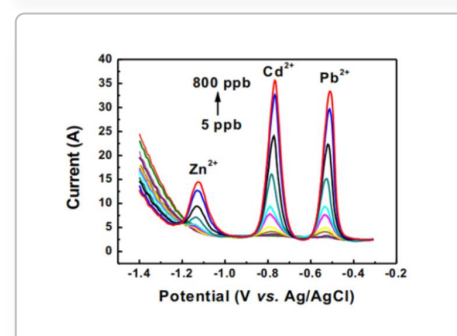
Portable potentiostat CS100 (No EIS)

Corrtest CS100 portable potentiostat (no EIS) is a portable single-channel unit for field and glove-box electrochemistry. It delivers potentiostatic and galvanostatic control for corrosion, battery and electroanalytical work, using a floating-ground design to test grounded systems. Control and analysis run via CS Studio, with Type-C connectivity. Supported methods include OCP and polarisation curves, including cyclic polarisation for corrosion studies.

Compact and battery-powered, CS100 supports 2-, 3-, and 4-electrode setups with high measurement resolution. The 6000 mAh lithium battery enables untethered use, while USB/Bluetooth links and 500 g weight streamline deployment across labs and field sites.

Key Specifications

- Compliance voltage: ± 12 V
- Voltage scan range: ± 10 V
- Maximum current: ± 45 mA
- Electrode configurations: 2-, 3-, 4-electrode
- Size and weight: 150 × 90 × 30 mm; 500 g
- Communication: USB or Bluetooth
- Power supply: built-in Li-Battery 6000mAh@3.7V / USB



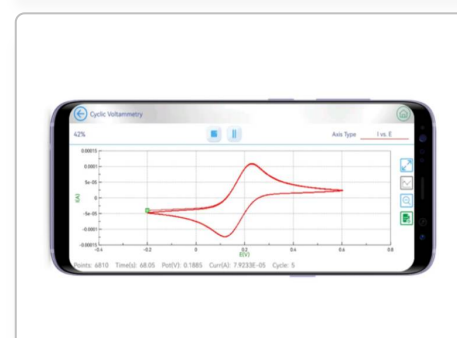
Portable potentiostat CS100E with EIS

Portable potentiostat CS100E by Corrtest is a handheld potentiostat/galvanostat with **built-in EIS** for field, glove-box and benchtop studies. It supports potentiostatic/galvanostatic control, cyclic and linear sweep voltammetry, pulse voltammetry, chronoamperometry/chronopotentiometry, corrosion techniques, and impedance analysis across common materials, energy, corrosion and biosensing applications. A floating-ground design permits measurements on grounded setups via CS Studio software or a mobile App. Distributed in Australia and New Zealand.

Type-C charging, USB and Bluetooth connectivity, and a rechargeable battery enable mobile operation and glove-box use. Reliable control, straightforward workflows, and compatibility with ZView for EIS fitting support scalable research from quick screening to routine laboratory testing.

Key Specifications

- Compliance voltage: ± 10 V
- Voltage scan range: ± 10 V
- Maximum current: ± 100 mA
- EIS frequency range: 10 μ Hz to 1 MHz



Potentiostats / Galvanostats - Single Channel

Squidstat Solo

Squidstat Solo is a single-channel **potentiostat/galvanostat** designed for **DC electrochemical measurements** in laboratories and teaching. It supports cyclic voltammetry, chronoamperometry and chronopotentiometry, with resolution and stability suited to corrosion studies, sensors, coin-cell batteries and materials characterisation. A ± 10 V potential range and 10 nA–100 mA current capability address low-current work, while high input impedance and precise control enable reproducible data across 2-, 3-, 4- and 5-electrode configurations.

Usability is prioritised through the Squidstat UI with Windows, macOS and Ubuntu support, direct USB connectivity and automatic 16 GB onboard data backup. Multiple Squidstat units can run in parallel from one computer for scalable multichannel workflows and straightforward replication of methods.

Key Specifications

- Compliance voltage: ± 12 V
- Voltage scan range: ± 10 V
- Maximum current: ± 100 mA
- Modes: Potentiostat, Galvanostat, ZRA
- Onboard memory: 16 GB



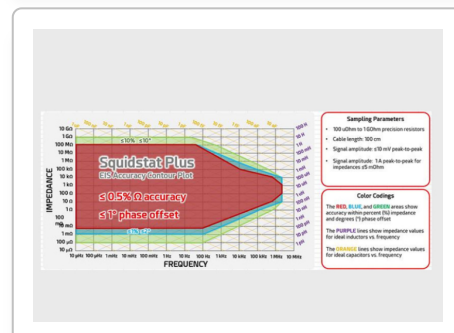
Squidstat Plus

Squidstat Plus is a single-channel Admiral Instruments **potentiostat/galvanostat with FRA/EIS** for rigorous electrochemical measurements. It supports CV, LSV, CA, CP, CC, PEIS and GEIS for batteries, fuel cells, corrosion, electrocatalysis, sensors, and photoelectrochemistry. ± 10 V control and ± 1 A capability with low noise deliver stable data in two-, three- and four-electrode cells, while high input impedance and fine resolution aid accurate potential and current measurements.

Usability is driven by the Squidstat User Interface with drag-and-drop experiment design, real-time parameter edits, and 16 GB onboard backup. USB connectivity, cross-platform operation, and running multiple Squidstats from one computer enable scalable multichannel setups and reliable long-duration experiments.

Key Specifications

- Compliance voltage: ± 12 V
- Voltage scan range: ± 10 V
- Maximum current: ± 1 A
- EIS frequency range: 10 μ Hz - 2 MHz
- Onboard memory: 16 GB



Potentiostats / Galvanostats - Single Channel

Squidstat Decka

The **Squidstat Decka** is a **high-current, research-grade potentiostat/galvanostat** with integrated **electrochemical impedance spectroscopy (EIS)**, designed for high-performance electrochemical testing and analysis in both academic and industrial research. It supports **± 10 V** voltage control and **± 10 A** current output, providing excellent precision, accuracy, and data stability. With a frequency range of 10 μHz to 2 MHz, 16 GB onboard memory, and USB, it ensures reliable performance even during long-term or high-load experiments.

Decka works with the Squidstat User Interface on Windows, MacOS, and Ubuntu, with an Application Programming Interface. Onboard 16 GB memory backs up channel data. Multiple units can run simultaneously for scalable multichannel setups.

Key Specifications

- Compliance voltage: ± 10 V
- Voltage scan range: ± 10 V
- Maximum current: ± 10 A
- EIS frequency range: 10 μHz to 2 MHz
- Operating modes: Pot / Gal / ZRA / FRA



Squidstat Penta

Squidstat Penta is a **single-channel potentiostat/galvanostat** from Admiral Instruments for **high-current electrochemistry** in batteries, fuel cells, corrosion, and materials research. It controls potential and current precisely with an integrated frequency response analyser for impedance, and supports five-electrode cells. Techniques include OCP, cyclic voltammetry, linear sweep, chronoamperometry, chronopotentiometry, differential pulse, square-wave, and PEIS/GEIS, plus charge-discharge methods.

Penta emphasises dependable workflows with USB connectivity, **switchable floating/ground modes**, fast sampling for transients, and 16 GB onboard data backup. **Multiple units can run concurrently under one interface to scale channels.** Real-time adjustment of setpoints and sampling aids method development and integrates neatly into compact benchtop setups.

Key Specifications

- Compliance voltage: ± 11.5 V
- Voltage scan range: ± 10 V
- Maximum current: ± 5 A
- EIS frequency range: 10 μHz to 2 MHz
- Cell connections: 5-electrode



Potentiostats / Galvanostats - Single Channel

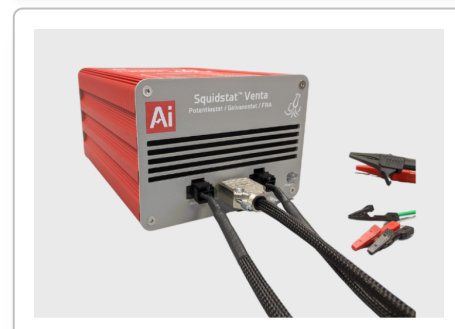
Squidstat Venta

The **Squidstat Venta** is a professional high current potentiostat galvanostat designed for demanding electrochemical research. It offers **built in EIS** for precise frequency analysis and **delivers up to 20 A current and 6 V voltage** with exceptional accuracy and fine resolution. The instrument supports potentiostatic, galvanostatic, zero resistance ammeter, and FRA impedance techniques, making it ideal for battery testing, fuel cells, corrosion and electrode characterization. Its frequency range extends from 10 Hz to 2 MHz, with 16 GB onboard memory for seamless data storage.

It provides cross platform compatibility, multi channel synchronisation, and a compact design that enhances flexibility for both research and teaching environments.

Key Specifications

- Compliance voltage: ± 6 V
- Voltage scan range: ± 6 V
- Maximum current: ± 20 A
- EIS frequency range: 10 μ Hz to 2 MHz
- Operating modes: Pot/Gal/ZRA/FRA



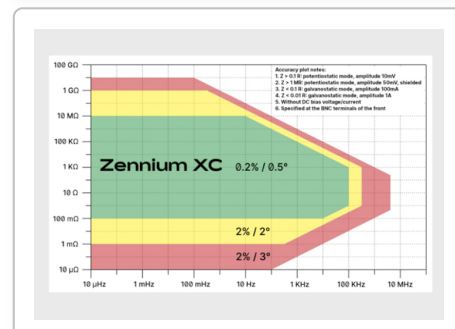
Zennium XC

The **Zennium XC** is a high-end, compact potentiostat/galvanostat with an **integrated frequency response analyzer (FRA)**, designed for advanced electrochemical research. It offers exceptional precision with **32-bit DC and 24-bit AC** measurement resolution **12 current ranges**, , and dual compliance voltages of **± 5 V and ± 14 V**. Supporting EIS measurements from **10 μ Hz to 5 MHz** and both grounded and floating operation modes, the Zennium XC combines laboratory-grade performance with a space-efficient design ideal for a broad range of electrochemical applications.

Automatic IR compensation and selectable small-signal rise times support reliable operation. High input impedance aids sensitive measurements.

Key Specifications

- Compliance voltage: ± 14 V (low), ± 28 V (high)
- Voltage scan range: ± 5 V or ± 14 V
- Maximum current: ± 2 A
- Frequency range: 10 μ Hz to 5 MHz
- Weight: 8 Kg



Potentiostats / Galvanostats - Single Channel

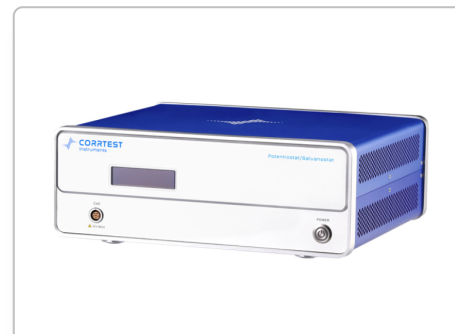
CS300M

CS300M is a Corrtest single-channel potentiostat/galvanostat **without EIS** for corrosion measurements. It controls potential and current for techniques including cyclic voltammetry and potentiodynamic scans (Tafel) to determine pitting corrosion potential. The system supports 2-, 3-, or 4-electrode cells with automatic ranging, spanning nA to A currents and ± 10 V control, suited to laboratory studies of localised corrosion and materials behaviour.

CS Studio software offers a straightforward interface, USB connectivity and Windows 10/11 compatibility for efficient setup and data capture. Automatic range selection, ten current ranges and specified control accuracy support reproducible results, while flexible cell connections simplify scaling across samples and methods.

Key Specifications

- Compliance voltage: ± 21 V
- Potential scan range: ± 10 V
- Maximum Current: 2 nA–2 A
- Potential resolution: 10 μ V (>100 Hz), 3 μ V (<10 Hz)
- Electrode configurations: 2-, 3-, or 4-electrode



CS310M

CS310M is a **single-channel potentiostat/galvanostat with integrated electrochemical impedance spectroscopy**. It supports 2-, 3- and 4-electrode measurements and covers core techniques including CV, LSV, CA, CP, CC, GCD, PITT, GITT, LPR, Tafel and EIS for corrosion, battery studies, and electrocatalysis research. A digital function generator and high-speed acquisition enable precise control and low-current resolution for laboratory testing across metals, coatings and energy materials.

CS Studio software provides smoothing, fitting and equivalent-circuit tools, with real-time data saving and combination tests for automation. USB 2.0 connectivity and full-floating measurement aid setup and integration. The platform is reliable for workflows and scalable with accessories.

Key Specifications

- Compliance voltage: ± 21 V
- Voltage scan range: ± 10 V
- Maximum current: ± 2 A
- EIS frequency range: 10 μ Hz–1 MHz
- Current resolution: 1 pA
- Electrode configuration: 2-, 3-, or 4-electrode system



Potentiostats / Galvanostats - Single Channel

CS350M

CS350M is a **single-channel potentiostat/galvanostat with built-in EIS** for corrosion, energy, material and electroanalysis. It consists of a potentiostat/galvanostat, FRA and DDS arbitrary function generator, and supports 40+ techniques including EIS, CV, LSV, GCD, Tafel, OCP, CA, CP, i-v, i-t and E-t. Applied potential is ± 10 V (can be customized to ± 12 V), maximum current ± 2 A, and EIS frequency range 10 μ Hz to 1 MHz.

CS Studio enables experiment control, EIS fitting and Tafel fitting. Single-channel models connect via USB; multi-channel use Ethernet. Real-time data storage ensures automatic saving. Supports 2-, 3-, 4-electrode system and current booster to 20 A, 40 A or 100 A.

Key Specifications

- Compliance voltage: ± 21 V
- Potential scan range: ± 10 V
- Maximum current: ± 2 A
- EIS range: 10 μ Hz–1 MHz
- Current Resolution: 1 pA



Potentiostats / Galvanostats - Bipotentiostats & RRDE Systems

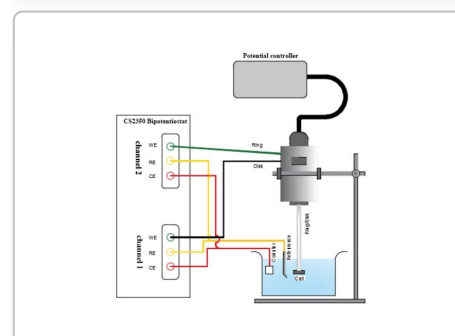
CS2150M Bipotentiostat (2-channel, No EIS)

CS2150M is a dual-channel bipotentiostat/galvanostat from Corrtest for independent control of two electrochemical cells. Each channel operates fully floating, enabling separate WE–RE–CE systems or a shared RE/CE with two working electrodes. It supports core techniques including CV, LSV, chronoamperometry, chronopotentiometry, stripping analyses and bulk electrolysis. Applications span RRDE studies of ORR/OER, hydrogen diffusion in H-cells, electrosynthesis and electrodeposition, materials and sensor development, corrosion evaluation, and battery or supercapacitor testing. High accuracy and wide dynamic ranges enable precise control and measurement in demanding protocols.

Usability is straightforward: Ethernet connectivity, real-time autosave, and independent or coordinated channels. An SDK enables automation. Robust build and a five-year warranty support a reliable, scalable deployment.

Key Specifications

- Compliance voltage: ± 21 V
- Voltage scan range: ± 10 V
- Maximum current: ± 1 A
- Channels: 2
- Electrode systems: 2-, 3-, 4-electrode
- Interface: Ethernet



CS2350M Bipotentiostat (2-channel, with EIS)

The **CS2350M** is a dual-channel bipotentiostat/bi-galvanostat with **EIS on both channels**. Each channel runs independently in 2-, 3- or 4-electrode configurations for simultaneous experiments, including RRDE and hydrogen diffusion studies. Techniques include CV, LSV, CA, CP, CC, DPV, NPV, SWV, and impedance from 10 μHz to 1 MHz for corrosion, batteries and electrocatalysis.

Built for dependable workflows, CS2350M offers Ethernet connectivity, autosave and analysis tools, plus SDK support for automation. Floating channels enhance isolation and safety, while 0.1% of range accuracy supports reproducibility. The system scales from single-cell to dual-cell or RRDE setups with a straightforward configuration.

Key Specifications

- Compliance voltage: ± 21 V
- Voltage scan range: ± 10 V
- Maximum current: ± 1 A
- Max current output: ± 1 A per channel
- EIS frequency range: 10 μHz –1 MHz



Potentiostats / Galvanostats - Bipotentiostats & RRDE Systems

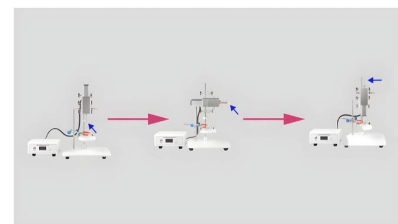
Multi-Function RRDE system

This **Multi-Function RRDE system** combines RDE, RRDE, spin coating, and electro-assisted spin coating into a single platform. It enables ring–disk studies to quantify intermediates and reaction pathways using hydrodynamic voltammetry and Koutecký–Levich analysis. Core applications include electrocatalysis for ORR, OER, and HER, corrosion mechanisms, and battery research. It integrates with bipotentiostat-capable workstations and supports remote speed control for synchronised electrochemical protocols.

Usability is prioritised: closed-loop speed regulation, low run-out mechanics, and adjustable vertical, lateral, or inverted orientations ensure stable baselines and reproducible films. The system scales from method development to routine QA, with straightforward setup, maintenance, and precise film deposition.

Key Specifications

- Rotation speed: 50–9800 rpm
- Main Unit dimension: 40cm×30cm×60 cm
- Controller dimension: 26cm×18cm×11 cm
- Weight: 10kg
- Speed Control: Manual/ Potentiostat remote control
- Electrode head Radial direction Run-out: $\leq 0.05\text{mm}$
- Motor: Japan imported DC servo motor



Potentiostats / Galvanostats - Multichannel

Squidstat Prime

Squidstat Prime is a **four-channel potentiostat/galvanostat** from **Admiral Instruments** for **DC electrochemistry**. Each channel can operate in potentiostatic, galvanostatic, or zero-resistance ammetry modes with **2-, 3-, 4- or 5-electrode connections**. A 16-bit architecture, high input impedance, and short sampling intervals support stable control and accurate measurement across batteries, corrosion, coatings, and sensor studies in teaching and research laboratories.

USB connectivity links Prime to the Squidstat User Interface for acquisition and analysis, and multiple Squidstat units can be run from one computer. **Four independent channels with ± 250 mA and a ± 10 V scan range** enable scalable throughput, with **switchable floating/ground modes** aiding integration in varied test setups.

Key Specifications

- Compliance voltage: ± 10 V
- Voltage scan range: ± 10 V
- Maximum current: ± 250 mA per channel
- Channels per unit: 4 independent DC channels
- Onboard memory: 16 GB



Multichannel (4-Ch, 1-EIS)

CS310X (Option A) is a Corrtest **multichannel potentiostat/galvanostat** with **four independent channels** for electrochemical studies. **One channel includes EIS** from 10 μ Hz to 1 MHz; all channels run CV, LSV, CA, CP, DPV, NPV, SWV, and GCD. Each channel provides ± 10 V potential and ± 1 A current for energy materials, battery testing, electroplating, sensors, electrocatalysis, and corrosion, and materials characterisation applications.

Ethernet communication, automatic range selection, and **SDK support aid integration and automation**. Independent, electrically isolated channels allow simultaneous or different experiments with accurate data capture. Plug-in boards enable future expansion beyond four channels for scalable workflows across teaching and research laboratories.

Key Specifications

- Compliance voltage: ± 21 V
- Voltage scan range: ± 10 V
- Maximum current: ± 1 A
- EIS frequency range: 10 μ Hz–1 MHz
- Channels per unit: 4 independent channels with EIS on 1
- Communication: Ethernet



Potentiostats / Galvanostats - Multichannel

Multichannel (4-Ch, 4-EIS)

Corrtest CS310X (Option B) is a **multichannel potentiostat/galvanostat/EIS with four independent channels, each equipped with EIS**. Channels run CV, LSV, CA/CP, DPV/NPV and SWV, and galvanostatic/potentiostatic modes, with impedance measurements from **10 μ Hz to 1 MHz**. Applications include energy materials, battery studies, metal corrosion and sensors. Full-floating, electrically isolated modules enable independent control and precise simultaneous experiments in research laboratories.

CS Studio software supports combination tests, real-time autosave and data export. **Ethernet connectivity** streamlines control. The chassis has eight slots, **with four installed and four free for expansion**, enabling scalable channel upgrades while maintaining independent operation and consistent performance.

Key Specifications

- Compliance voltage: ± 21 V
- Voltage scan range: ± 10 V
- Maximum current: ± 1 A
- EIS frequency range: 10 μ Hz–1 MHz
- Current resolution: 1 pA
- Channels per unit: 4 independent channels with EIS on all 4



Multichannel (8-Ch, 1-EIS)

CS310X (Option C) from Corrtest is an **8-channel multichannel potentiostat/galvanostat for parallel electrochemical measurements**. Each channel is fully floating and electrically isolated, enabling independent, simultaneous tests. **EIS is equipped on one channel (10 μ Hz–1 MHz)**, CV, GCD, PITT and GITT, serving energy materials research, battery testing and metal corrosion studies. The chassis houses eight modules in one enclosure for high-throughput batch testing, and identical per-channel specifications provide consistent control with ± 10 V potential and ± 1 A current capability.

Usability is enhanced by **Ethernet communication** and the option to allocate and control channels from multiple computers. CS310X **can run identical or different experiments simultaneously**, and its slot-based design supports scalable configurations for reliable data for advanced research workflows.

Key Specifications

- Compliance voltage: ± 21 V
- Voltage scan range: ± 10 V
- Maximum current: ± 1 A
- EIS frequency range: 10 μ Hz–1 MHz
- Channels per unit: 8 independent channels with EIS on 1



Potentiostats / Galvanostats - Multichannel

Multichannel (8-Ch, 8-EIS)

CS310X (Option D) is a **multichannel potentiostat/galvanostat with eight independent channels, each equipped with electrochemical impedance spectroscopy**. It supports techniques including CV, LSV, CA, CC, GCD, PITT and GITT to analyse batteries, energy materials and metal corrosion, as well as coatings and concrete systems. Full floating measurement and electrical isolation permit simultaneous experiments without channel interaction. EIS spanning **10 μ Hz–1 MHz** supports frequency-domain characterisation.

CS Studio software and Ethernet connectivity streamline setup and data processing. Automatic range selection, real-time saving and combination tests enhance workflow. The compact chassis and per-channel independence provide scalable capacity for parallel runs and reliable results in routine battery testing and materials research.

Key Specifications

- Compliance voltage: ± 21 V
- Voltage scan range: ± 10 V
- Maximum current: ± 1 A
- EIS frequency range: 10 μ Hz–1 MHz
- Current resolution: 1 pA
- Channels per unit: 8 independent channels with EIS on all 8



Potentiostats / Galvanostats - Modular

Zennium PRO

Zennium PRO is a modular potentiostat/galvanostat with integrated frequency response analyser for electrochemical characterisation in corrosion, batteries, fuel cells, photoelectrochemistry and sensors. It supports potentiostatic, galvanostatic, OCP and ZRA control, delivering high-fidelity EIS over a wide span (**10 μ Hz–12 MHz**). 12 current ranges and selectable DC voltage ranges accommodate low-current studies and higher-power tests, while add-on cards enable parallel impedance on segmented cells and stacks.

Usability is anchored by Thales XT software, automation and data export. Connectivity includes USB and **switchable floating/grounded modes**. Calibrated, low-noise hardware and expansion slots support reliable, scalable workflows.

Key Specifications

- Compliance voltages: ± 14 V, ± 28 V
- Voltage scan ranges: ± 5 V, ± 15 V
- Maximum current: ± 3 A over 12 ranges
- EIS frequency range: 10 μ Hz–8 MHz
- Resolution: 32-bit DC, 24-bit AC
- Extension slots: 5



Zennium X

Zennium X is a modular Zahner potentiostat/galvanostat with an EIS for precision electrochemical measurements. It supports EIS, CV, CA, CP etc., across batteries, fuel cells, corrosion, coatings, sensors and materials research. Dual DC voltage ranges with a 10 μ Hz–12 MHz EIS span enable characterisation from slow interfacial processes to MHz diagnostics. 12 current ranges and high-resolution converters deliver stable control and low-noise detection.

Zennium X is controlled by THALES XT software for control and analysis. **Switchable floating or grounded** operation aids integration with diverse cells and fixtures, while **ten extension slots support scalable upgrades for multiplexing, high-power modules or specialised interfaces** in advanced laboratory setups.

Key Specifications

- Compliance voltages: ± 16 V, ± 32 V
- Voltage scan ranges: ± 5 V, ± 15 V
- Maximum current: ± 4 A over 12 ranges
- EIS frequency range: 10 μ Hz–12 MHz
- Resolution: 32-bit DC, 24-bit AC
- Extension slots: 10



Potentiostats / Galvanostats - Current Boosters

20A/40A/100A Current Booster

Corrtest 20A/40A/100A Current Booster modules (CS2020B/CS2040B/CS2100B) connect to single-, bi-, or multi-channel potentiostats to extend output current. Used with Corrtest workstations, they support potentiostatic, galvanostatic, charge/discharge, and EIS, enabling tests on power batteries and PEM water splitting. **One booster drives one channel in multi-channel systems.** Fixed current ranges maintain potential control with impedance capability.

Integration is via RS485 with supplied DB9/DB15 and potential-sampling leads for reliable connections. Standard supply includes high-power cables and a dummy load to improve usability and repeatability. Select 20 A, 40 A, or 100 A units to match research needs and instrument configurations.

Key Specifications

- Compliance voltage: ± 13 V
- Voltage scan range: ± 10 V (20A), ± 5 V (40A/100A)
- Maximum current: ± 20 A, ± 40 A, ± 100 A fixed range
- EIS frequency range: ≤ 50 kHz
- Compatibility: single-, bi-, or multi-channel potentiostat



10A/50V Power Booster CS5010B

The **CS5010B** is a **10A/50V power booster** from Corrtest Instruments that works with a potentiostat to achieve **± 10 A and ± 50 V** output. It supports AC/DC operation and a fixed 10 A current range, with an EIS frequency range of **1 μ Hz~10 kHz**. Typical applications include fuel cell studies, water splitting, cylindrical and pouch battery work, and battery cell testing.

For practical integration, the system communicates via RS485 and provides ± 50 V compliance. Used with a potentiostat, it extends current and voltage capability for methods requiring higher drive levels while maintaining controlled electrochemical operation in research and testing environments.

Key Specifications

- Compliance voltage: ± 50 V
- Voltage scan range: ± 50 V
- Maximum current: ± 10 A (AC/DC)
- EIS frequency range: 1 μ Hz~10 kHz
- Communication: RS485



Potentiostats / Galvanostats - Specialised Devices and Modules

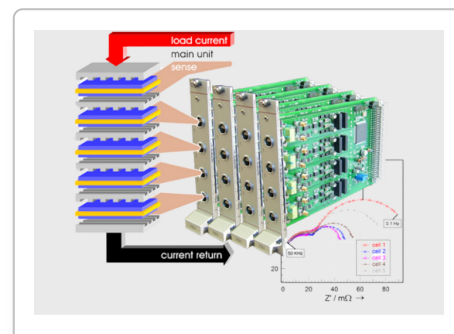
PAD4 Cards

PAD4 Cards from Zahner add four parallel voltage or current sense channels to Zennium potentiostats for synchronous DC and EIS measurements on stacked devices. The card acquires multiple tap potentials simultaneously, avoiding multiplexer time offsets and enabling parallel impedance analysis across cells or segments. PAD4 supports battery and fuel cell investigations and half-cell studies, with selectable input ranges, wide frequency coverage, and 18-bit resolution under Thales software control.

Each card offers four individually addressable inputs and scales to four cards with Zennium X or one with Zennium PRO. Standard ± 4 V and extended ranges, high input impedance, and 10 μHz –250 kHz coverage support reliable, synchronous parallel stack measurements.

Key Specifications

- Channels: 4
- Supported systems: Zennium PRO/X
- Input ranges: $\pm 4/\pm 5/\pm 10/\pm 12/\pm 20/\pm 24$ V
- Frequency range: 10 μHz –250 kHz



XPOT2

XPOT2 is a high precision auxiliary potentiostat from Zahner that adds an additional channel to the ZENNIUM series for bi-potentiostat functionality. Combined with ZENNIUM and an EPC42 interface, it enables rotating ring-disk electrode studies or hydrogen permeation measurements in Devanathan cells. XPOT2 delivers precise control with verified current ranges and high resolution, and it can also operate in stand-alone mode for simple DC measurements. It is suited to electrocatalysis, corrosion science, and battery research where controlled secondary-electrode polarisation is required.

The unit integrates with ZENNIUM via EPC42 for reliable synchronisation, and supports multiple extensions for scalable setups. Its high accuracy, fine resolution, and compact footprint aid reproducible measurements, while Zahner's documented Python control options streamline automated workflows and experiment sequencing.

Key Specifications

- Compliance: ± 25 V
- Maximum current: ± 500 mA
- Current ranges: 9
- Voltage res.: 0.596 μV
- Current res.: 3.81 pA
- Weight: 4.6 kg



Potentiostats / Galvanostats - Specialised Devices and Modules

PP212

The **PP212** is a **four-quadrant power potentiostat** from Zahner for medium-power electrochemical testing. It **applies and sinks up to ± 10 A at voltages up to ± 20 V** with a 200 W limit. Used with the Zennium series, it extends current and voltage capability for battery, fuel-cell, electrolysis and corrosion studies, maintaining precise control in potentiostatic, galvanostatic, pseudo-galvanostatic and open-circuit potential modes.

Integration with Zennium and Thales XT enables control, data acquisition and automation. The unit connects as an external power stage and is also used within CIMPS systems for light-source control. Defined operating ranges and stable four-quadrant behaviour support reliable, repeatable experiments and scalable setups.

Key Specifications

- Maximum voltage: ± 20 V
- Maximum current: ± 10 A
- Maximum power: 200 W
- Quadrant: Four-quadrant control
- System compatibility: Zennium series integration
- Modes of operation: Potentiostatic, galvanostatic, pseudo-galvanostatic



PP222

PP222 is a **Zahner 4-quadrant power potentiostat for medium-power electrochemistry**. Coupled to the ZENNIUM series, it applies and sinks up to **± 20 A at voltages to ± 10 V for DC and AC techniques**, including EIS. Operating in potentiostatic, galvanostatic, pseudo-galvanostatic and OCP modes, it supports battery, fuel-cell and electrolyser-stack studies. Two-, three- and four-terminal sensing provide accurate cell control and measurement while the ZENNIUM FRA handles impedance acquisition.

Usability and connectivity include USB operation, Zahner-Lab stand-alone control, and Thales control when used with ZENNIUM. Grounded or floating operation aids integration, and EPC42 ports allow multi-device setups with Python/SCPI automation.

Key Specifications

- Maximum voltage: ± 10 V
- Maximum current: ± 20 A
- Output power: 200 W
- Cell connection: 2-, 3-, 4-terminal sensing
- System compatibility: Zennium series integration
- Modes of operation: Potentiostatic, galvanostatic, pseudo-galvanostatic



Potentiostats / Galvanostats - Specialised Devices and Modules

PP242

The **PP242** is a Zahner four-quadrant power potentiostat that extends ZENNIUM systems for high-current electrochemistry. It sources and sinks up to ± 40 A within a ± 5 V range (200 W) and, with ZENNIUM, supports DC and AC measurements including impedance spectroscopy. Typical applications include battery charge/discharge, fuel cells and electrolyzers, using 2-, 3- or 4-terminal sensing. Via the EPC42 interface card, signals are transferred to the main workstation for control and analysis.

PP242 also operates stand-alone for DC measurements using Zahner-Lab. Connectivity includes USB and Ethernet, with integration via SCPI and Python libraries for automation. Ground reference can be floating or grounded. Multiple external potentiostats are connected and controlled sequentially for scalable setups.

Key Specifications

- Maximum voltage: ± 5 V
- Maximum current: ± 40 A
- Output power: 200 W
- Quadrant: Four-quadrant control
- System compatibility: Zennium series integration
- Modes of operation: Potentiostatic, galvanostatic, pseudo-galvanostatic



Electronic Load – EL1002

The **Zahner EL1002** is a dynamic electronic load for high-power electrochemical systems. Used with ZENNIUM potentiostats or standalone, it **sinks current** for controlled discharging and galvanostatic EIS on batteries, fuel cells and large-format cells. It **measures impedance to 100 kHz while dissipating up to 1 kW at up to 100 V and 200 A, extendable to 680 A with auxiliaries**.

Usability features include 2-, 3- and 4-terminal sensing, floating operation, and integration via USB or Ethernet for Zahner-Lab, Thales XT and SCPI control. PAD4 channels add parallel sensing for stacks, while the EPC42 interface enables modular, scalable setups across multi-cell and stack measurements robustly.

Key Specifications

- Voltage scan range: ± 100 V
- Maximum sink current: 200 A
- Maximum measurable current: ± 680 A
- Power dissipation: 1000 W
- Impedance frequency range: 10 μ Hz – 100 kHz



Potentiostats / Galvanostats - Specialised Devices and Modules

Pitting corrosion potential measurement potentiostat CS300M

CS300M from Corrtest is a single-channel potentiostat/galvanostat for **pitting corrosion potential measurement** to standards such as **ASTM G61, GB 4334.9 and JIS G0577**. It integrates a digital function generator, high-speed data capture, and precise potential/current control for potentiodynamic (Tafel), cyclic and linear sweep voltammetry, chronoamperometry, chronopotentiometry, galvanostatic modes, and related corrosion tests. It supports 2-, 3- or 4-electrode configurations and automatic ranging.

USB control via CS Studio on Windows 10/11 enables straightforward setup and data logging. Fast rise time, high input impedance, and the supplied dummy cell and cables support reliable operation in routine corrosion analysis.

Key Specifications

- Compliance voltage: ± 21 V
- Voltage scan range: ± 10 V
- Maximum current: ± 2 A
- Current range: 2 nA–2 A, 10 ranges
- Reference electrode input impedance: $10^{12} \Omega \parallel 20$ pF
- Interface: USB



CST520 Multi-electrode Array Electrochemical Mapper

CST520 Multi-electrode Array Electrochemical Mapper from Corrtest **maps galvanic current and OCP on multi-electrodes** to study non-uniform corrosion under deposits, coatings and anti-rust oils. Using high-resolution AD converters and a zero-resistance ammeter, it can work with a CS potentiostat to map impedance on multiple-electrode sensors. Cyclic potential and current scans characterise local corrosion and measure electrode potential and short-circuit current of single electrodes for spontaneous corrosion studies.

The **multi-electrode interface supports up to 100-channel switching with a rate up to 100 Hz**. Connectivity is via RS485 at 115200 bps. CST520 can operate as an independent potentiostat with OCP, polarization curve, linear polarization, EIS, M-S curve and electrochemical noise techniques.

Key Specifications

- Voltage scan range: ± 10 V, ± 5 V, ± 2.5 V
- Maximum current: ± 2 A
- Current range: 2 nA–2 A, 10 ranges
- Channel switching rate: 100 Hz
- Expansion interface: RS485 115200 bps



Electrochemistry Accessories - Working Electrode

Disc Electrodes

Disc electrodes provide polished circular tips for reproducible voltammetry studies and sensing applications. Available materials include glassy carbon, gold, platinum, silver, copper, palladium, nickel, and stainless steel. Typical diameters span 2–10 mm, with 3 mm common. Bodies are made from PTFE, PCTFE, or PEEK. Custom options include alternative diameters, materials, holder formats, and connection pins or threaded terminals.



L-Type Working Electrodes

Right-angle working electrodes improve clearance under lids and condensers while maintaining immersion depth. Common tip materials include glassy carbon, gold, platinum, silver, copper, palladium, nickel, and stainless steel. Disc diameters typically range from 2 to 10 mm. Bodies are made from PEEK with PTFE isolation, or PTFE. Customisation includes tip diameter, L-rod length, stem diameter, and terminal connection configuration.

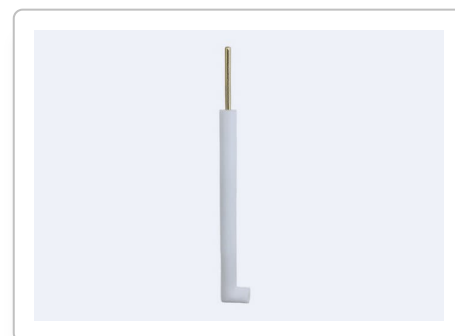


Plate Electrodes

Plate and sheet electrodes support uniform current distribution for foils, coupons, conductive glass, and coated films. Materials include platinum, gold, titanium, copper, stainless steel, and conductive oxides. Standard plates around 10×15 mm; clamp ranges suit ~0.1–5 mm thickness. Bodies/holders use PEEK or PTFE. Custom sizes, materials, and clamps available.



Rod Electrodes

Cylindrical rod electrodes offer robust contact and easy surface renewal. Materials include glassy carbon, graphite and metals such as gold, platinum, silver, copper, nickel, titanium, and aluminium. Core diameters typically 2–10 mm. Bodies are PTFE, PCTFE, or PEEK with metal terminals. Custom diameters, lengths, body materials, and terminals supported.



Electrochemistry Accessories - Working Electrode

Platinum Electrode Clamp

A platinum-contact clamp that securely holds plates or sheets for electrochemical tests while providing inert, low-resistance contact. Typically used with PEEK or PTFE bodies. Compatible with plate holders and sample thicknesses around 0.1–5 mm. Custom options include jaw geometry, stem/body/plate material, terminal type (2 mm pin or threaded), and plate window size.



Platinum Plate Sheet

Flat platinum plate or sheet for working or counter electrodes with wide potential window and excellent corrosion resistance. Common pieces are approximately 10 × 10 mm and similar formats, typically ~0.1 mm thick for clamp holders. Used with PEEK or PTFE plate holders. Custom sizes, thicknesses, various materials and holder interfaces available on request.



Carbon Paste Electrode

A renewable working electrode formed by packing conductive carbon paste into a cavity; the surface is refreshed by extruding and smoothing. Typical cavity diameters are 2, 3, 4, or 5 mm. Bodies use PTFE casings with a metal pusher/terminal. Custom options include cavity diameter, body length/diameter, and terminal style.



Nickel Foam

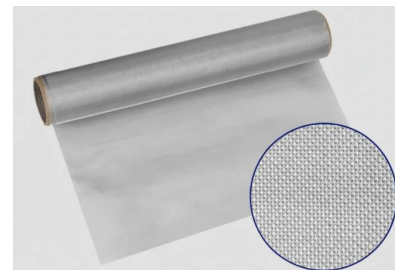
Three-dimensional open-cell nickel foam used as a high-surface-area working substrate or current collector for alkaline electrocatalysis, batteries, and supercapacitors. Supplied as sheets or rolls; common thickness around 1.6 mm with ~80–110 PPI and ≥90% porosity. Cuttable to size. Custom thickness, pore density, and sheet dimensions available. Other metal foams are also available on request.



Electrochemistry Accessories - Working Electrode

Nickel Mesh

Nickel mesh is a conductive working substrate for alkaline electrocatalysis, sensing and gas diffusion studies. Available as pure nickel with wire diameters typically 0.04–0.30 mm and mesh counts around 20–200. Supplied in sheets or rolls. Used in PTFE or PEEK holders. Custom mesh count, wire diameter, sheet size and holder interface available.



Nickel Sheet / Plate

Nickel sheet or plate provides a robust, corrosion-resistant working electrode for alkaline media, battery research and plating tests. Supplied as flat sheets with typical thicknesses 0.05–1.0 mm and cuttable to size. Mounted in PTFE or PEEK clamps or plate holders. Custom thickness, panel dimensions and holder compatibility supported on request.



Copper Foam

Copper foam is a three-dimensional, open-cell substrate for electrocatalysis, battery anodes and flow-through electrodes. Supplied as sheets with typical thickness 1–3 mm, pore density 60–110 PPI and porosity $\geq 90\%$. Used in PTFE or PEEK fixtures. Custom sheet dimensions, thickness and pore density, plus holder interfaces, are available to suit specific cells.



Electrochemistry Accessories - Reference Electrodes

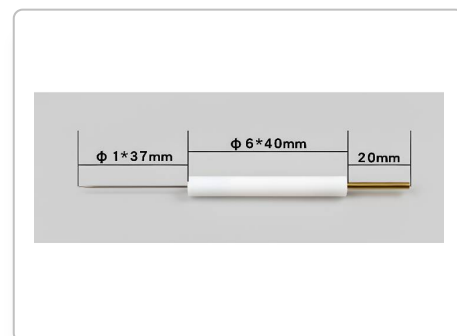
Ag/AgCl Reference Electrode

Aqueous Ag/AgCl reference electrodes provide stable potentials for general electrochemistry. Common fillings are saturated potassium chloride or 3 M KCl. Bodies are glass, PTFE, or PEEK with ceramic frit or PTFE sleeve junctions. Typical outer diameters range from about 4–12 mm. Customisation includes stem length, junction type, filling concentration, cable/connector style, and storage caps.



Silver Wire Pseudo Reference Electrode

Silver wire pseudo references act as convenient quasi-references when a defined aqueous standard is impractical. The element is solid silver; optional chloridation forms Ag/AgCl. Typical wire diameters span ~0.5–1.0 mm with user-set lengths and diameter. Bodies may be bare wire, glass capillary, or PTFE holders. Custom options include insulation, lead length, termination, and pre-treatment.



Non-aqueous Ag/Ag⁺ Reference Electrode

Non-aqueous Ag/Ag⁺ references define potentials in organic electrolytes. They typically use silver ions in solvents such as acetonitrile or propylene carbonate with a supporting electrolyte. Bodies are glass, PTFE, or PEEK with porous glass or ceramic junctions; double-junction variants help minimise crossover. Common diameters are ~4–6 mm. Customisation covers solvent, Ag⁺ concentration, junction porosity, stem length, and connectors.



Saturated Calomel Electrode

The saturated calomel electrode provides a stable aqueous reference based on mercury and mercurous chloride in saturated potassium chloride. Bodies are typically glass with a ceramic frit and PTFE head or sleeve. Outer diameters frequently fall around 6–12 mm. Options include sealed or refillable designs, stem and cable length, connector type, and junction configuration.



Electrochemistry Accessories - Reference Electrodes

Double Salt Bridge Saturated Calomel Electrode

A calomel reference for aqueous work, using $\text{Hg}/\text{Hg}_2\text{Cl}_2$ in saturated KCl, configured with a double salt bridge to minimise chloride ingress into sensitive media. Typically supplied in a glass body (about 6–12 mm OD) with porous ceramic or polymer junctions, sealed or refillable. Custom options: bridge electrolyte, stem length, junction porosity, connector type, storage cap.



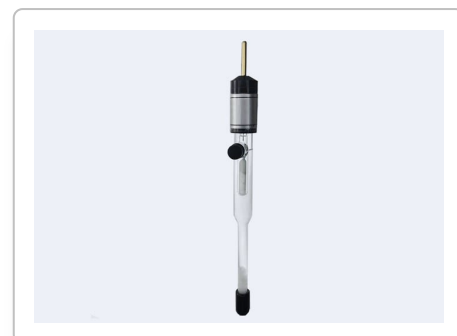
Hg/HgO Reference Electrode

An alkaline reference suited to hydroxide electrolytes, comprising mercury with mercuric oxide in potassium hydroxide. Common designs use a glass body around 6–12 mm OD with ceramic frit or polymer sleeve. Options include refillable reservoirs, selected KOH concentration, junction porosity, extended stems or leads, and various connectors. Typically chosen for batteries, corrosion, and electrocatalysis studies.



Hg/Hg₂SO₄ Reference Electrode

A sulphate reference for chloride-sensitive systems, employing $\text{Hg}/\text{Hg}_2\text{SO}_4$ with saturated potassium sulphate. It is commonly supplied in a glass body of roughly 6–12 mm OD with a ceramic junction, sealed or refillable. Customisation may include electrolyte concentration, stem and overall length, junction type, protective caps, and connector format. Favoured in plating, concrete, and analytical measurements.



Reversible Hydrogen Electrode

A primary standard reference defining potential by the hydrogen redox couple at platinised platinum under hydrogen. Assemblies typically provide a gas inlet, sleeve or fritted junction, and high-area platinum, with diameters generally governed by cell hardware. Customisable aspects include tube and lead length, membrane or sleeve choice, electrolyte, connector style, and caps. Suitable for accurate aqueous potential measurements.



Electrochemistry Accessories - Counter Electrodes

Platinum Plate Electrode

A flat platinum counter electrode for general aqueous or non-aqueous cells, chosen for inertness and wide potential window. Plates commonly span a few millimetres to centimetres in width, with thickness selected for rigidity. Bodies are typically PTFE or PEEK. Options include plate area, stem length, lead and connector style, and protective caps.



Platinum Wire Electrode

A straight platinum wire counter electrode for small to medium cells and narrow vessels. Wires are commonly 0.1–1.0 mm diameter with user-specified immersion length. The support body is usually PTFE or PEEK with a sealed feedthrough. Customise wire gauge, exposed length, shroud dimensions, connector type, and whether the design is sealed or rebuildable.



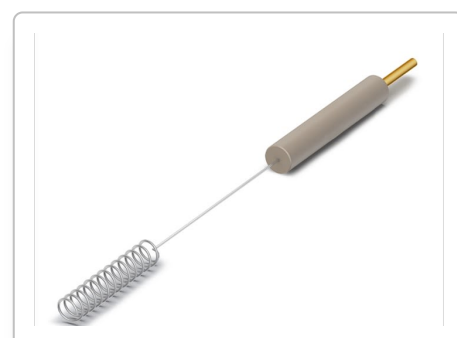
Graphite Rod Counter Electrode

A carbon counter electrode suited to fluoride-sensitive or chloride-rich media where metal dissolution is undesirable. Graphite rods are commonly 3–10 mm diameter, supplied plain or sheathed. Holders are typically PTFE or PEEK. Options include rod diameter, length, holder style, replaceable rods, choices, secure cable/connector configuration. Other materials are available on request.



Platinum Helix Wire Electrode

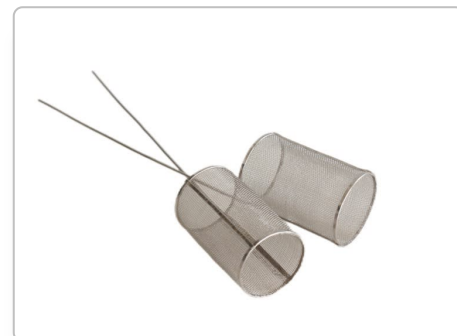
A helical platinum counter electrode offering increased geometric area and improved gas release in stirred or gas-evolving experiments. Helices are commonly formed from 0.5 mm wire on small mandrels. Bodies are typically PTFE or PEEK. Customise coil diameter and pitch, overall length, shroud dimensions, and connector or lead options with protective end caps.



Electrochemistry Accessories - Counter Electrodes

Platinum Gauze Electrode

A platinum gauze counter electrode providing high surface area and rapid mass transport, often used for high-current work. Gauze is typically woven from fine wire into a cylindrical or flat form. Holders made of PTFE or PEEK are available on request. Options include gauze dimensions, mesh count, mounting geometry, stem length, and cable or 2 mm pin connections.



Platinum Mesh Electrode

A platinum mesh counter electrode for routine and high-rate electrolysis. Mesh constructions provide large effective area with efficient bubble shedding. Mesh panels or cylinders are commonly built from 0.1–0.3 mm wire with mesh counts typical of laboratory supply. Bodies are usually PEEK or PTFE. Customise mesh size, shape, stem length, and connector style.



Electrochemistry Accessories - Electrochemical Cell

Glass Electrochemical Cell, unsealed

An open-configuration borosilicate glass electrochemical cell for general laboratory electrochemistry where gas-tight sealing is unnecessary. It features a PTFE lid with gas inlet and outlet for atmosphere exchange or purging, and supports standard three-electrode assemblies. Nominal capacities range from 15 to 500 mL. Transparent walls aid observation. Custom dimensions and configurations are available on request.



Sealed Electrochemical Cell

The sealed electrochemical cell enables controlled experiments requiring isolation from the external environment. A borosilicate glass body is sealed using PTFE components and O-rings to provide gas-tight operation. It supports standard three-electrode arrangements for corrosion, redox, electrocatalysis and electrolysis studies. Offered in multiple chamber volumes and port configurations, with custom dimensions available on request.



Small-Volume Conical Three-Electrode Electrochemical Cell

Designed for high-sensitivity measurements with limited electrolyte, this small-volume conical three-electrode glass cell holds 5–20 mL and supports standard 6 mm electrodes. Borosilicate construction with PTFE fittings and ground-glass joints with chemical-resistant O-rings provide leak-tight operation. A five-port layout includes gas inlet and outlet for purging. Custom options include special electrode fittings, gas bubblers, thermostatic jackets, and custom dimensions.



Jacketed Sealed Glass Cell

Designed for controlled electrochemistry, this jacketed sealed glass cell provides isolation with precise thermal regulation. Borosilicate construction with a double-wall jacket allows water, oil, or coolant circulation. PTFE-sealed lids and O-ring gaskets deliver gas-tight operation, supporting anaerobic studies and standard three-electrode setups. Typical uses include corrosion kinetics, electrocatalysis, and electrolyte-degradation tests. Custom dimensions and optional wired ports are available.



Electrochemistry Accessories - Electrochemical Cell

PTFE Electrochemical cell - Inert reactor

The PTFE electrochemical cell is a fully inert, corrosion-resistant reactor for demanding electrochemistry and electrosynthesis. The chamber is moulded from ultra-pure PTFE and sealed with PTFE lids and O-ring gaskets for gas-tight operation. It supports standard three-electrode configurations and optional membrane separators, with a variety of volumes and port layouts available, including custom dimensions.



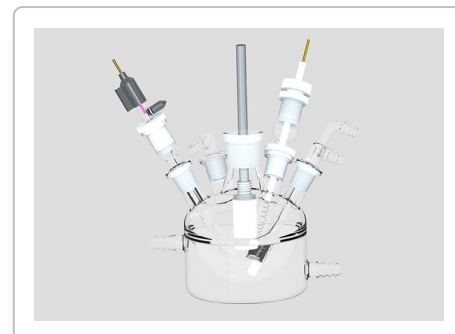
5-Port Electrolytic Cell

The 5-port electrolytic cell supports multi-electrode electrochemical studies, enabling working, counter, reference and gas-handling arrangements in one chamber. It is made from borosilicate glass with a PTFE sealing lid and O-ring gaskets for reliable closure. Five ports serve electrodes and gas inlet/outlet. Available in a range of volumes and port geometries, with custom dimensions on request.



Jacketed 5-Port Electrolytic Cell

Temperature-controlled, jacketed five-port electrolytic cell for advanced electrochemical experiments. Double-walled borosilicate glass allows circulation of coolant or heating fluid, maintaining isothermal conditions. PTFE lids and O-ring seals provide a fully sealed, gas-tight chamber. Five ports accommodate working, counter, reference, gas inlet/outlet and auxiliary access. Applications include electrosynthesis, gas-evolution studies and temperature-dependent kinetics. Modular ports and volumes are customisable.



Electrochemistry Accessories - H-Cell

H-type Membrane Cell, unsealed

An open-access dual-compartment glass cell for electrochemical studies that require separated anodic and cathodic environments via a replaceable ion-exchange membrane. Made from borosilicate glass with chamber capacities from 20 to 250 mL, it supports standard three-electrode arrangements. Without gas-tight sealing, it enables rapid sample manipulation and method development. Configurations can be adapted to specific research needs.



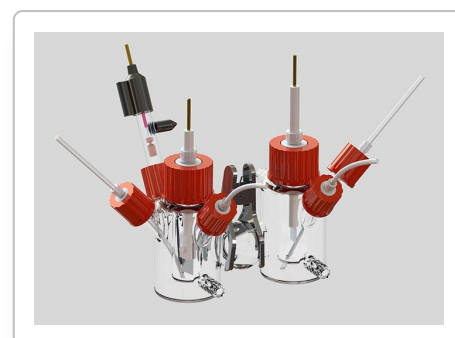
Sealed H-Cell

The sealed H-cell is a gas-tight, dual-compartment glass membrane cell for electrochemical studies requiring strict separation of environments. Each borosilicate chamber (20–250 mL) is divided by a user-supplied ion-exchange membrane and sealed with PTFE and O-rings to minimise gas exchange. It supports standard three-electrode setups for anaerobic or oxygen-sensitive experiments, reducing cross-contamination between compartments.



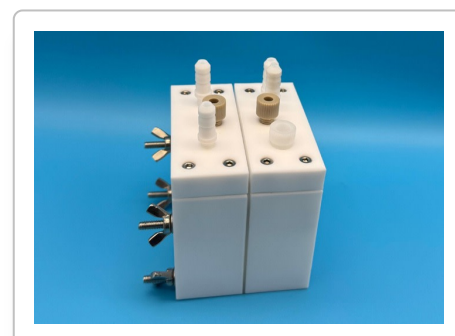
Jacketed H-type Membrane Cell

The jacketed H-type membrane cell provides temperature-controlled, dual-compartment electrochemistry with separated anodic and cathodic processes. Borosilicate glass chambers (20–250 mL each) are divided by a replaceable ion-exchange membrane. A water-circulation jacket enables stable thermal control. A PTFE cap system provides a leak-proof seal and supports standard three-electrode configurations. Custom configurations may be discussed for specific research needs.



PTFE H Type Membrane Electrolytic Cell

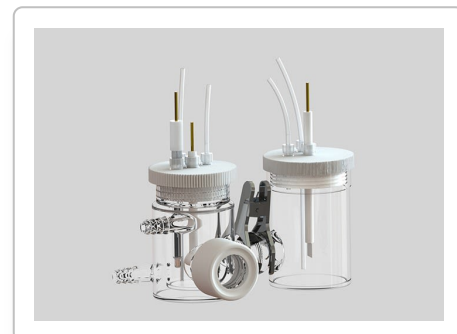
This PTFE H-type membrane electrolytic cell supports high-purity electrochemistry where chemical resistance and compartment isolation are essential. Machined from inert PTFE, it offers dual chambers (each typically 20–250 mL) separated by a user-supplied ion-exchange membrane secured with O-ring compression. A below-surface gas inlet enables controlled atmospheres. Optional light-transmissive windows support photoelectrochemical studies.



Electrochemistry Accessories - H-Cell

H type Sealed Jacketed Photoelectrochemical cell

Sealed, jacketed H-type photoelectrochemical cell for light-driven electrochemistry. Two borosilicate glass chambers (approx. 20–250 mL) are separated by a replaceable ion-exchange membrane. A water-circulation jacket provides temperature control, and a quartz window (~24 mm) enables illumination for measurements such as solar water splitting, semiconductor characterisation, and photocatalytic testing. Gas-tight construction supports standard three-electrode configurations.



H Type 3-Port Jacketed Photoelectrochemical Cell

Designed for illuminated electrochemistry, this H-type 3-port jacketed photoelectrochemical cell features dual borosilicate glass chambers (20–250 mL) separated by a replaceable ion-exchange membrane. A water-circulation jacket stabilises temperature, while a quartz window provides efficient optical access for PEC measurements. The three-port layout supports flexible experimental access and integration of electrodes or probes for compartmentalised studies.



Three-Chamber H-Cell (Triple H-Cell)

This three-chamber H-cell provides gas-tight separation of anode, cathode, and an intermediate zone for controlled electrochemical studies. Borosilicate glass compartments (20–250 mL) are sealed with PTFE lids and O-ring gaskets and divided by optional ion-exchange membranes. Suitable for electrodialysis, electro-organic synthesis, desalination, and ion-exchange research. Configurable central separators and custom specifications are available.



Electrochemistry Accessories - Membrane Electrode Assembly (MEA) Test Cells

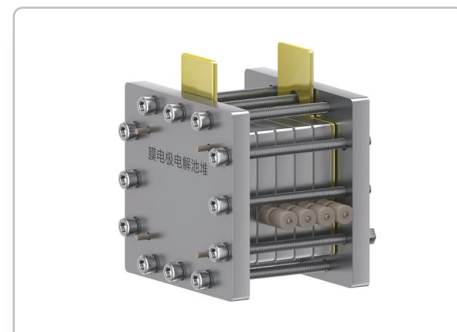
Metal Bipolar-plate Membrane electrode Electrolytic cell

Metal bipolar-plate MEA cell for CO₂ reduction, AEM water electrolysis, and related electrochemical studies. The body uses high-purity titanium or nickel plates, with dual O-ring sealing and ports for heating and temperature sensing. Flow areas include 10×10 to 50×50 mm, or customised. Flow-field options include serpentine, parallel, and leaf-vein patterns; additional geometries are supported.



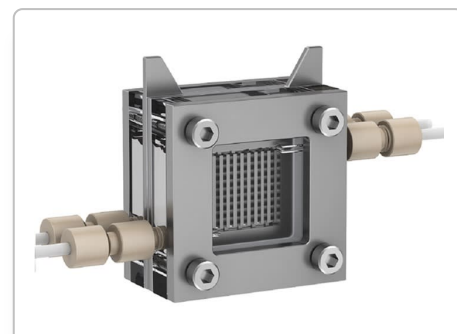
Membrane electrolysis cell stack electrochemical cell

Stackable MEA cells combine multiple flow-plate units to increase test voltage and power. Channel plates are high-purity titanium, with custom options including high-purity nickel and PEEK. Flow fields from 10×10 to 50×50 mm support serpentine, parallel or leaf-vein patterns. Heating and temperature-measurement ports aid control. Gold-plated copper collectors minimise interfacial resistance.



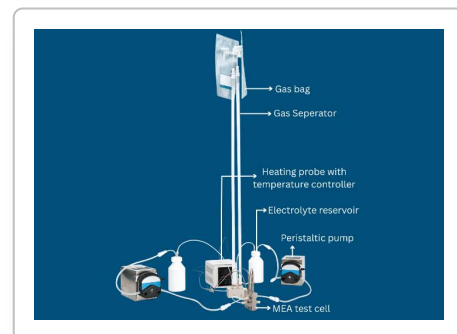
Visual Membrane Electrode Electrolytic cell

Visual MEA cell with optical windows on both electrodes enables in-situ observation and high-speed imaging during CO₂ reduction and alkaline anion-exchange water electrolysis. High-purity titanium bipolar and guard plates provide robust sealing and compression. Standard flow areas include 10×10, 20×20, 30×30 and 50×50 mm, with serpentine cathode and multi-parallel anode; custom flow-field dimensions and configurations are available.



Turnkey MEA Complete Package — All Components Included

Turnkey MEA package delivering a ready-to-use setup for electrocatalysis, CO₂ reduction and PEM studies. It includes an MEA test cell, polypropylene gas separator, PTFE electrolyte reservoir, peristaltic pump, heating probe with temperature control, gas bags with compatible tubing, and adapters and sealing fittings. Configurable for alkaline, CO₂RR, PEM or microbial workflows, with upgrades to membranes, electrodes and tubing.



Electrochemistry Accessories - Corrosion Test Electrochemical cell

Coating evaluation Cell

Designed for localised electrochemical testing on coated or bare metal panels, this cell seals a defined circular area to form a stable electrolyte reservoir. Available in 50 mL and other volumes. It features ports for reference and inert counter electrodes, supporting polarisation and impedance measurements for rapid paint/film assessments, scribe studies, and inhibitor screening.



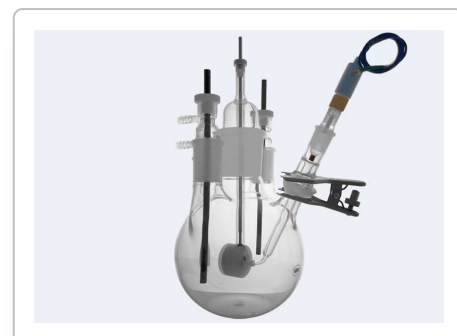
Jacketed Flat Corrosion Cell

Jacketed flat corrosion cell enables temperature-controlled testing of planar coupons. A borosilicate glass body with a circulating jacket maintains stable setpoints. The multi-port top accepts a coupon holder, reference electrode, one or two counter electrodes, and gas/Luggin connections. Typical options include 250, 500 or 1000 mL capacity, 1 cm² working area, and accessories for magnetic stirring and port/holder configuration.



5-Port Corrosion Cell

This 5-port corrosion cell (500 mL) is designed for electrochemical evaluation of metal specimens under corrosive conditions. It provides dedicated ports for working, counter, reference, and gas inlet/outlet, supporting purging or inert blanketing. Suitable for ambient and elevated temperatures, excluding hydrofluoric acid. Custom high-temperature variants and general customisation are available to match study needs.



Corrosion Speciman Holder

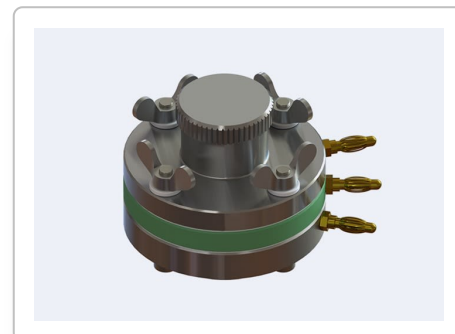
Designed to define and isolate the working electrode, this corrosion specimen holder exposes a fixed 1 cm² area for reliable comparisons. It accepts circular samples 11.5–15 mm in diameter and 0.1–5 mm thick, contacting only one face with electrolyte. A PEEK/PTFE insulating rod and stainless-steel or brass contact ensure stable alignment and low-resistance connection within standard corrosion cells.



Electrochemistry Accessories - Battery Test Cell options

Battery Test Cell

This reusable battery test cell provides a controlled, coin/pouch-like environment for in-situ evaluation of rechargeable battery materials, enabling cycling, impedance, and open-circuit measurements. Stainless-steel construction with PEEK/PTFE insulation and airtight O-rings supports disc electrodes up to about 16 mm. Custom sizes are available; typical customisations include alternative electrode diameters, optical access for operando spectroscopy, and pressure/temperature accessories.



Semi Battery Test Cell

The semi battery test cell is a stainless-steel electrochemical fixture for half-cell studies, with PEEK/PTFE insulation and O-ring sealing for leak-resistant assembly in glovebox use. It supports circular working electrodes and Li/Na counter electrodes for CV, EIS and cycling. Customisation typically includes windowed cap options or insulation components to suit specific materials and protocols.



Solid State Battery Test Cell

This solid-state battery test cell enables evaluation of solid electrolytes and electrodes under controlled axial pressure. A stainless-steel body with PEEK or PTFE insulation and screw-nut compression supports layered stacks up to approximately 16 mm. It interfaces with potentiostats for EIS and charge-discharge, suits glovebox assembly, and typically offers customisation such as heating stages or pressure-sensing integration.



Zinc Air Battery Test Cell

Zinc-air battery test cell for evaluating metal-air systems with zinc anodes and ambient oxygen cathodes. Stainless-steel body with PTFE/PEEK insulation, air inlet and O-ring sealing accepts disc electrodes up to 16 mm diameter, enabling ORR/OER and cycling studies with potentiostats. Customisation is typically available, such as alternative electrode diameters, airflow interfaces, and sealing materials to suit specific protocols.



Electrochemistry Accessories - In-Situ & Operando Electrochemical Cells

Spectroelectrochemical Cell

Quartz cuvette-style spectroelectrochemical cell with transparent windows and ports for three-electrode measurements. A PTFE lid provides gas-tight, chemically inert sealing for aqueous, non-aqueous or inert-gas environments. Supports in-situ Raman and UV-Vis studies using transparent electrodes (e.g., ITO, FTO, gold mesh, carbon films). Custom options include optical path length, window materials, and electrode configurations.



In-Situ Mass Spectrometry Flow Electrochemical Cell

In-situ mass spectrometry flow electrochemical cell enables real-time detection of volatile and gaseous intermediates during electrochemical reactions. A gas-tight, three-electrode configuration within a PEEK or PTFE body supports operando coupling with DEMS or MIMS for direct gas sampling. Typical applications include CO₂ reduction and HER/OER. Custom options include tailored flow geometries, electrode dimensions, and mass-spectrometer interface fittings.



In-Situ X-ray Absorption Spectroscopy (XAS) Reaction Cell — Single-Cell

The in-situ X-ray absorption spectroscopy reaction cell is a compact electrochemical reactor for synchrotron studies under controlled atmospheres. A PEEK body and user-supplied polyimide film windows support high X-ray transmission and sealing. Integrated gas inlet/outlet enables inert, oxidising or reducing environments, with 2- or 3-electrode configurations. Customisation is typically available for window films and port configurations to meet beamline needs.



In-Situ XAS H-Cell — Dual-Compartment with Membrane

Dual-compartment in-situ XAS H-cell with a replaceable ion-exchange membrane isolates anode and cathode while preserving beam access via X-ray-transparent film windows. A PEEK body, gas inlet/outlet ports, and 2- or 3-electrode layouts support rigorous electrochemical protocols and operando analysis. Given application diversity, configurations typically include selectable membrane types, window apertures, and port arrangements to match beamline geometry.



Electrochemistry Accessories - In-Situ & Operando Electrochemical Cells

Gas-Phase In-Situ XAS Reaction Cell

Designed for operando synchrotron studies in gases, this in-situ XAS cell uses a PEEK body with polyimide film windows and dedicated inlet/outlet ports to control flow, composition and humidity. It interfaces with 2- or 3-electrode configurations and assembles quickly to reduce beamline downtime. Given the application, cells can typically be customised with alternative window materials or gas-handling fittings on request.



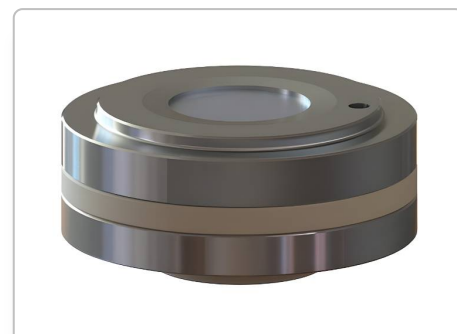
In-Situ Battery XRD Test Cell (for Japan Rigaku XRD mini)

Designed for operando charge–discharge studies, this in-situ battery XRD cell couples diffraction with electrochemistry through an X-ray-transparent Be or Kapton window. A stainless-steel body, PTFE/O-ring sealing, and electrical feedthroughs maintain a sealed environment. It accommodates electrodes up to $\phi 16$ mm with ~ 5 – 6 mm stacks. Custom options typically include alternative window films and insulating base materials.



In-Situ Battery XRD Test Cell (for Bruker D2)

An in-situ battery XRD test cell enables simultaneous electrochemical cycling and diffraction through an X-ray-transparent window within a sealed environment. A robust metal body with insulating base supports electrode stacks up to ~ 5 mm and $\phi 16$ mm inserts, with PTFE sealing. Window materials and inserts are configurable (e.g., Be or Kapton), and adaptor options typically accommodate Bragg–Brentano stages.



In-Situ Battery XRD Test Cell (for Japan Rigaku XRD full)

An in-situ battery XRD cell enabling operando monitoring of structural changes during cycling. It features a stainless-steel body with insulating base, a $\phi 24$ mm beryllium or polymer film window, PTFE sealing, electrode diameters up to 16 mm, and stack thickness to ~ 6 mm. Custom options typically include alternative window materials and integration for simultaneous optical measurements.



Electrochemistry Accessories - In-Situ & Operando Electrochemical Cells

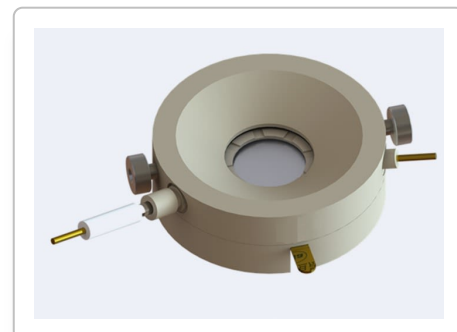
In-Situ Raman Spectroelectrochemical Cell – REC 01

In-situ Raman spectroelectrochemical cell with PTFE body and quartz window for optical access. External size $\text{Ø}70 \times 22 \text{ mm}$; window path $\text{Ø}29 \text{ mm}$ with 1 mm quartz thickness. Standard kit includes Pt counter, Ag/AgCl or Ag/Ag⁺ reference, and glassy carbon working electrode. Available with or without pressing fixture; customised working electrodes are supported to suit different samples.



In-situ Raman Spectroelectrochemical Cell – REC 02

In-situ Raman spectroelectrochemical cell with a PEEK body and quartz window, sealed with fluororubber. Supplied with a platinum wire counter electrode and Ag/AgCl reference. Supports plate working electrodes (e.g., ITO, FTO or metal). Approximate 6 mL volume, $\text{Ø}27 \text{ mm}$ optical path, $\text{Ø}22 \text{ mm}$ reaction area. Custom options typically include alternative window materials, sealing elastomers, and electrode fixtures.



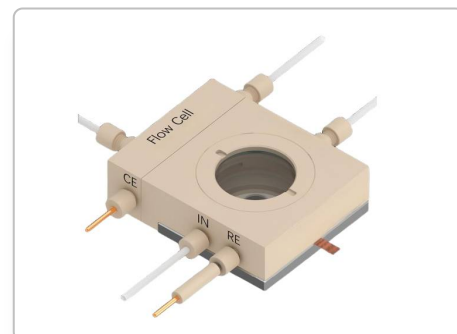
In-situ Raman Spectroelectrochemical Cell – REC 03

REC 03 is a PTFE spectroelectrochemical cell with a quartz window ($\text{Ø}27 \text{ mm}$, 2 mm thick) for in-situ Raman monitoring at the working electrode. The set includes Ag/AgCl (or non-aqueous Ag/Ag⁺) reference, platinum wire counter, and $\text{Ø}5 \text{ mm}$ glassy-carbon working electrode. The window-to-electrode distance is adjustable. Custom working electrodes, including carbon paper or nickel foam, are supported.



In-situ Raman Electrochemical Flow H-Cell – REC 04

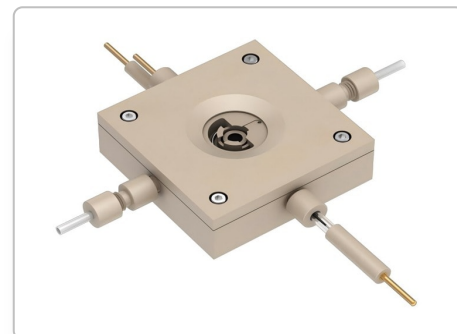
In-situ Raman flow H-cell designed for spectroelectrochemical studies of gas-diffusion electrodes. PEEK body with optical window above a $10 \times 10 \text{ mm}$ working area; three isolated chambers support controlled gas and electrolyte circulation. Supplied with a platinum counter electrode and Ag/AgCl reference. Custom options may be available on request, such as alternative window or electrode configurations.



Electrochemistry Accessories - In-Situ & Operando Electrochemical Cells

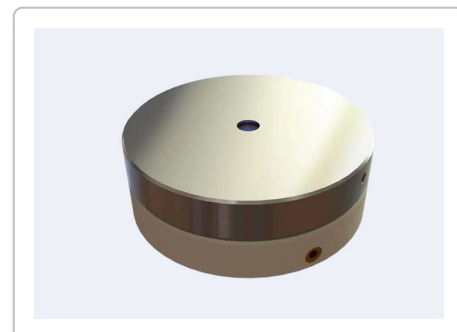
In-situ Raman Spectroelectrochemical Cell – REC 05

This in-situ Raman spectroelectrochemical cell gives direct viewing of the working electrode through a quartz window, with a 25 mm aperture and <6 mm electrode-to-window spacing. A PEEK and high-purity titanium body supports flow or injected-electrolyte operation. Supplied with a 5 mm glassy-carbon working electrode, Ag/AgCl (or Ag⁺) reference, and platinum-wire counter electrode. Custom working electrodes (gold, platinum, silver) available.



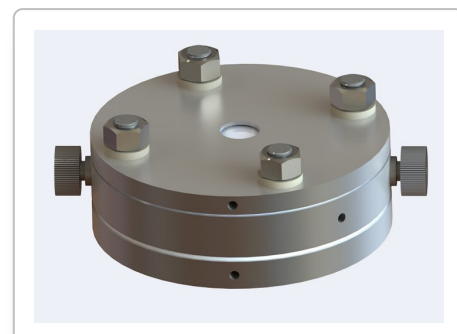
In-situ Raman Battery Test cell (2-electrode, without ventilation) – REC 06

In-situ Raman battery test cell with two-electrode configuration for charge-discharge studies, enabling spectral monitoring at close working distances. The body uses stainless steel 316/PEEK with PTFE and fluororubber seals, and a sapphire window. Technical options include window sizes Ø5 or Ø8, 0.3 mm specimen-to-window spacing, and Ø12–Ø16 mm specimen compatibility; custom window size selection is available.



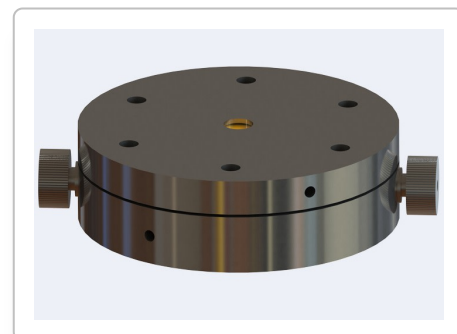
In-situ Raman Battery Test cell (3-electrode) – REC 07

In-situ Raman battery test cell with three-electrode configuration and electrolyte inlet/outlet, featuring a quartz window and SS316 body with PTFE and fluororubber seals. External size Ø60×20 mm; window Ø5 or Ø8; window thickness 0.5 mm; 0.3 mm specimen–window gap; inner chamber Ø16 mm. Options include 2-electrode with ventilation and selectable window diameter.



In-situ Raman Battery Test cell (2-electrode+ventilation+cathode protection) – REC 09

In-situ Raman battery test cell with two-electrode configuration, ventilation, and cathode protection. The main body is SS316 with PTFE and fluororubber seals, and a quartz window plate. It supports testing under gas circulation, while the cathode membrane protection reduces cathode wastage and extends experiment duration. Customisation is typically available to match gas-handling and optical access requirements.



Electrochemistry Accessories - Photoelectrochemical Cells

Photoelectrochemical Cell – Unsealed Type

An unsealed glass photoelectrochemical cell with a 24 mm quartz window supports light-driven electrochemistry and semiconductor electrode characterisation. The open design enables direct electrode access, optical alignment and rapid sample exchange, with easy cleaning. Standard capacities include 50, 100 and 150 mL. Custom options include alternate window sizes, extra electrode ports, and coupling to fibre or light-path accessories.



Photoelectrochemical Cell – Sealed Type

The sealed photoelectrochemical cell supports controlled, airtight experiments for photoelectrocatalysis and semiconductor studies. Built from glass with a removable quartz window, it accommodates L-shaped or clamped electrodes and resists corrosive electrolytes. Modular design aids cleaning and maintenance. Custom configurations are available, including alternative window dimensions, extra ports, modified sealing, optical integration, and temperature-controlled variants.



Photoelectrochemical Cell, sealed PTFE cell

The sealed photoelectrochemical cell supports controlled, airtight experiments for photoelectrocatalysis and semiconductor studies. Built from PTFE with a removable quartz window, it accommodates L-shaped or clamped electrodes and resists corrosive electrolytes. Modular design aids cleaning and maintenance. Custom configurations are available, including alternative window dimensions, extra ports, modified sealing, optical integration, and temperature-controlled variants.



Photoelectrochemical Cell (Quartz)

This full-quartz photoelectrochemical cell is manufactured by precision quartz melting, delivering four-sided optical transparency and high chemical purity for UV–Vis illumination and photoelectrode studies. A PTFE cap provides a secure, corrosion-resistant seal compatible with standard fittings. Standard cube and rectangular sizes are available, and custom builds can include window thickness changes, extra ports, fibre-coupling, or multi-electrode caps.



Electrochemistry Accessories - Photoelectrochemical Cells

Jacketed Photoelectrochemical Cell – Sealed Type

This jacketed photoelectrochemical cell provides a sealed, temperature-controlled environment for PEC studies. Borosilicate glass construction with a removable quartz window (\varnothing 24 mm) supports UV–Vis illumination, while the water-circulation jacket stabilises long experiments. Chemically resistant components and a compact modular design aid cleaning and setup. Custom options include window size, extra ports, modified jacket fittings, and in-situ spectroscopy alignment.



H-Type Membrane Single Channel Photoelectrochemical Cell – Sealed Type

This sealed H-type photoelectrochemical cell features a single optical channel and separated compartments divided by an ion-exchange membrane. Borosilicate glass with a 24 mm quartz window supports precise illumination for photoelectrochemical and photocatalytic studies, including CO₂ reduction and hydrogen evolution. Customisation typically covers window size, extra ports, membrane selection, and integration with in-situ Raman or UV–Vis.



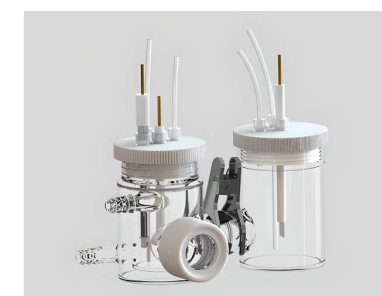
H-Type Membrane Double Channel Photoelectrochemical Cell

Sealed H-type membrane double-channel photoelectrochemical cell in borosilicate glass with 24 mm quartz windows enables dual-compartment PEC studies with simultaneous illumination from both sides. Gas-tight construction and replaceable windows/membranes support clean, isolated reactions. Available in 50 mL and 100 mL. Customisation includes alternative window sizes, additional electrode or gas ports, membrane options, in-situ Raman/UV–Vis paths, and pressure- or vacuum-ready sealing.



H-Type Jacketed Photoelectrochemical Cell – Sealed Type

The sealed H-type jacketed photoelectrochemical cell features dual chambers in high-purity glass with removable quartz windows, enabling separated anodic and cathodic environments under stable, temperature-controlled conditions. It suits PEC studies including water splitting, CO₂ reduction, and hydrogen evolution. Custom options include alternative window sizes, additional ports, modified jacket fittings, light-path alignment, and multi-electrode or membrane supports.



Electrochemistry Accessories - RDE/RRDE Electrodes

Glassy Carbon Rotating Disk Electrode (GC RDE)

This glassy carbon rotating disk electrode enables kinetic and mechanistic studies under controlled hydrodynamic conditions. The polished, inert disk supports low background currents and stable operation in aqueous and non-aqueous systems. The body uses PTFE or PEEK for chemical resistance and features a reliable gold-plated contact. Standard 5 mm disk; custom diameters are available to suit experimental needs.



Gold Rotating Disk Electrode (Au RDE)

Gold rotating disk electrode for controlled hydrodynamic studies where a defined diffusion layer is essential. It features a mirror-polished 99.99% gold disk set in a chemically inert PTFE or PEEK body with a low-resistance contact. Compatible with common laboratory rotators. Standard disk is 5 mm; custom diameters are available to suit specific experimental needs.



Platinum Rotating Disk Electrode (Pt RDE)

This platinum rotating disk electrode features a high-purity 99.99% platinum disk in a PTFE or PEEK body, mirror-polished and pre-cleaned for immediate use. A gold-plated contact supports stable current flow. It suits hydrogen and oxygen evolution or reduction studies, fuel-cell catalyst evaluation, corrosion and electrodeposition work, and kinetic analysis. Custom diameters and body materials are available for standard rotators.



Glassy Carbon–Platinum Rotating Ring-Disk Electrode (GC–Pt RRDE)

Glassy carbon disk–platinum ring RRDE suitable for dual detection and mechanistic studies. The concentric ring surrounds a glassy carbon disk within a chemically resistant housing, with independent electrical contacts for disk and ring. Designed to fit common RRDE rotators. Custom configurations are available, including collection-efficiency options, to match specific setups and experimental requirements.



Electrochemistry Accessories - RDE/RRDE Electrodes

Platinum–Platinum Rotating Ring-Disk Electrode (Pt–Pt RRDE)

Featuring platinum disk and ring, this rotating ring-disk electrode enables simultaneous kinetic analysis and intermediate detection under controlled hydrodynamics. Chemically resistant PTFE or PEEK housing and dual independent connectors support reliable operation in acidic, alkaline, and neutral media. Compatible with common RRDE rotators. Custom options, such as collection-efficiency tuning or housing selection, are available to suit specific studies.



Glassy Carbon–Glassy Carbon Rotating Ring-Disk Electrode (GC–GC RRDE)

This rotating ring–disk electrode uses glassy carbon for both disk and ring, providing an inert, symmetric interface with low background current and broad potential window in aqueous and non-aqueous electrolytes. It supports mechanistic studies where metallic catalysis must be avoided and collection at the ring is controlled hydrodynamically. Custom diameters, collection efficiency, and body materials are available.



Gold–Gold Rotating Ring-Disk Electrode (Au–Au RRDE)

This gold–gold rotating ring disk electrode provides chemically stable, highly conductive surfaces for RRDE experiments in aqueous and non-aqueous media. The matched gold disk and gold ring support collection studies, intermediate detection and kinetic investigations. Custom configurations, such as alternative electrode materials or specific geometries, can typically be accommodated on request.



Electrochemistry Accessories - Other Electrochemistry Accessories

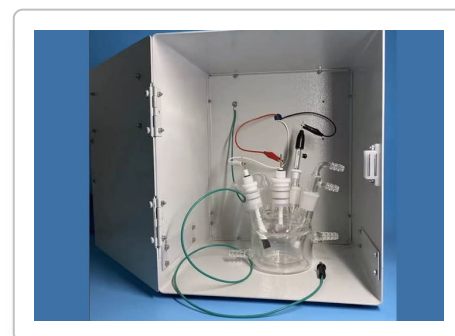
Electrode Polishing Kit

This complete electrode polishing kit renews disk-type working electrodes for reproducible responses before CV, LSV, DPV and EIS. It includes two 100 × 100 mm glass bases, alumina powders (1.0, 0.3 and 0.05 μm), velvet and microcloth pads, plus 2000# and 3000# abrasive papers. Users typically progress coarse-to-fine with separate pads. Custom configurations may be arranged on request.



Faraday Cage

Designed for noise-sensitive electrochemical measurements, this Faraday cage provides a conductive enclosure that typically minimises electromagnetic interference around cells and cables. The listed model measures 24 × 23 × 30 cm. Custom options are available on request, including made-to-order sizes and feedthroughs matched to your cell cable type for clean, stable data.



Disposable Electrochemical Sensors - Thick Film Screen-Printed Electrodes

Gii-Sens - Pure 3D Porous Graphene Sensing Strip Electrode (SSE)

3D porous graphene sensing strip electrodes feature a vertically aligned, porous graphene architecture that enhances electrochemical surface area, signal-to-noise, and sensitivity for chemical, metal-ion, and biosensing applications. Supplied on ceramic or flexible polyimide substrates, they interface with common SPE connectors and support CV, DPV, amperometry, and EIS. Customisation typically covers surface functionalisation, substrate format, and bulk-order packaging.



Single Electrodes (S1PE)

Single screen-printed electrodes (S1PE) feature a classic three-electrode layout on PET or ceramic substrates and are suited to microvolume studies with reproducible cyclic voltammetry. Electrode materials include carbon, graphene, gold, platinum, silver and silver/silver chloride. Variants add integrated Ag/AgCl reference options. Customisation typically includes substrate selection, material choice, and accessory compatibility.



Mediated Single Electrodes (S1PE)

Mediated screen-printed single electrodes (S1PE) on PET combine a carbon working electrode with electroactive mediators for enzyme-assisted detection. Variants include potassium ferricyanide, Prussian Blue, cobalt phthalocyanine, and Meldola Blue, with silver reference and carbon counter. Typical three-electrode chips handle 20–50 μL . Customisation is available through mediator selection and compatible accessories.



Dual Electrodes (D2PE)

Dual screen-printed electrodes (D2PE) integrate two working electrodes on a flexible white PET substrate for microvolume analysis. Versions use carbon or gold working electrodes with silver or gold reference and auxiliary elements, enabling multiplexed chemical and biosensing. Typical dimensions and droplet volumes suit 20–50 μL workflows. Accessories support convenient interfacing; custom electrode material combinations and platform compatibility can be arranged.



Disposable Electrochemical Sensors - Thin-Film Microfabricated Electrodes

Single Electrodes (SE)

Thin-film single electrodes provide reliable three-electrode sensing on a glass substrate with a microstructured SU8/PI coating that defines a 2 mm electrochemical cell for 1–5 μL samples. They are available in gold, platinum, or a dual-metal variant combining a gold working electrode with platinum reference and auxiliary electrodes. Metal stacks use Ti/Au or Ti/Pt with typical 50/150 nm thicknesses to support stable, reproducible responses. For direct surface access, the passivation layer can be omitted on request. External dimensions are $10 \times 6 \times 0.7$ mm. These chips suit applications spanning analyte detection and biosensing, and they integrate easily with compatible drop-cell and multi-position benchtop holders routinely used in laboratory workflows.



Microelectrode Array (MEA)

Microelectrode Arrays (MEAs) provide real-time measurements for neuroscience and cell studies, enabling recording and stimulation. These thin-film sensors are fabricated on a glass substrate and feature a microstructured SU-8 protective layer with a honeycomb pattern of microholes that defines the electrochemical area. Offered in gold or platinum, they are available with 5 μm or 10 μm microholes; pitch and hole count vary by design. Applications include detecting oxygen, ammonium, thiols and DNA in small sample volumes. Technical details include external dimensions of $10 \times 6 \times 0.7$ mm and an electrochemical cell of 2 mm diameter, with 1–5 μL working volume. Customisation includes electrode material and microhole size as required.



Interdigitated Electrodes (IDE)

Interdigitated Electrodes (IDE) are thin-film sensors offered in gold or platinum, fabricated as Ti/Au or Ti/Pt stacks. The range includes multiple finger widths and gaps—such as 10/10 μm , 10/5 μm , and 5/5 μm —defined by an SU8/PI passivation layer that delineates the active area. IDEs support electrochemical impedance measurements and are suitable for scanning electron microscopy characterisation. They are compatible with Drop, AIO, and Multi8x AIO cells, enabling work with very small sample volumes. Configurations span different numbers of digit pairs to balance sensitivity and resistance. Customisation is typically feasible for geometry or passivation based on application needs. Contact us to discuss application-specific IDE configurations and compatible accessories today.



Disposable Electrochemical Sensors - Thin-Film Microfabricated Electrodes

Interdigitated Microelectrode Array (IDA)

Interdigitated microelectrode arrays (IDAs) are thin-film sensors fabricated on glass substrates, offered with gold or platinum electrodes and an SU8/PI passivation that defines the active area for measurements in small sample volumes. Standard layouts provide multiple finger widths and gaps (for example 10/10, 10/5 and 5/5 μm), with options for integrated reference and counter electrodes, supporting detection in micro- to microlitre-scale electrochemical assays. Typical applications include gas sensing (such as oxygen or nitrogen dioxide), explosive detection, and chemical or biomolecular analysis including thiols, uric acid, biomarkers and insecticides. Dimensions and cell features are compact for benchtop use. For experiments requiring direct electrode surface access, passivation-free versions are available on request.



Interdigitated Ring Array (IDRA)

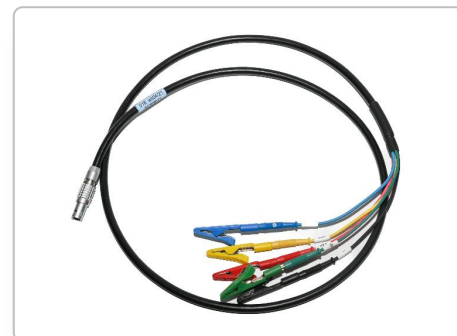
Interdigitated Ring Arrays (IDRA) are thin-film microelectrodes with a circular, radial layout designed to enhance performance in flow-based electroanalysis. Built on glass substrates, they are available in gold or platinum and offer customisable electrode widths and gaps. A microstructured SU8/PI protective layer precisely defines the electrochemical area and enables work with extremely small liquid volumes; alternatively, versions without passivation allow direct electrode exposure. Typical device details include external dimensions of $10 \times 6 \times 0.7 \text{ mm}$, a 2 mm-diameter electrochemical cell, and a 1–5 μL sample volume. This adaptable platform supports accurate measurements and straightforward integration into microfluidic or low-volume setups while accommodating material and geometry selections for method-specific needs.



Electrochemical and Microfluidic Platforms

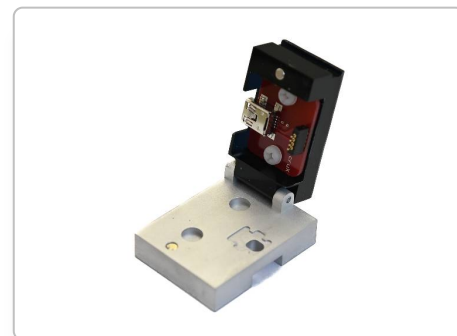
Device Accessories

Device accessories include replacement and add-on cables that adapt analytical instruments to diverse electrode and platform setups. Options cover instrument type selection and plug formats, including 2-mm male banana (with alligator clips) and mini-USB for direct platform connection. Compatibility includes drop-cell connectors and all-in-one platforms. Custom configurations for interface and cable terminations are typically available on request.



Drop-cell Connector

The drop-cell connector provides a robust, user-friendly interface between thin-film electrodes and a potentiostat, accommodating standard 10×6 mm formats and $1\text{--}10\ \mu\text{L}$ sample drops. It features tool-free assembly for rapid electrode replacement and batch analysis. A universal cable is included; customisation typically includes cable terminations (2-mm male or female banana plugs) and a replacement PCB.



All-In-One Platform

The All-in-One SPE platform provides a robust, easy-to-use interface for screen-printed electrodes in static or dynamic conditions, with sample volumes up to 1 mL. Interchangeable, magnet-mounted add-ons enable quick switching between setups and fast electrode replacement. Customisation typically includes selecting batch-cell or flow-cell add-ons to match application needs and experimental workflows.



All-In-One Platform Add-ons

Add-ons for the all-in-one platform enable thin-film electrodes to be used under static (batch-cell) or dynamic (flow-cell) conditions. Each module attaches magnetically to the base and seals with O-rings for quick, leak-free changes. Standard options are transparent PMMA; PEEK versions and customised designs or materials are typically available on request to suit demanding chemistries.



Electrochemical and Microfluidic Platforms

All-In-One SPE Platform

An all-in-one platform for screen-printed electrodes with interchangeable, magnet-secured add-ons enables static (drop/batch-cell) or dynamic (flow-cell) measurements and sample volumes up to 1 mL. It includes a cable (choose 2-mm female or 2-mm male) and one or two PMMA add-ons. Aluminium base with methacrylate cover; 60×40×15/30 mm; compatible with 27.5×10.1 mm screen-printed electrodes.



All-In-One SPE Platform Add-ons

These add-ons extend the AIO-SPE base cell, attaching magnetically for quick changes while O-rings help maintain a leak-free seal. They enable fast replacement of electrodes and modules to match experimental workflows. Current versions are supplied in transparent PMMA (standard), with selection of variants to suit specific setups and measurement needs across different configurations.



Multi8x All-In-One Platform

Multi8x All-in-One platform provides a multiplexing interface for up to eight thin-film (micro)electrodes, operating in static (drop/batch) or dynamic (flow) conditions with microvolume drops of 1–10 μL . The base cell ships with miniUSB box, IDC connector and universal cables. Add-ons attach securely with O-rings; standard PMMA, with solvent-resistant PEEK available on request.



Multi8x All-In-One Platform Add-ons

Add-ons for the multiplex platform enable simultaneous use of up to eight thin-film electrodes under dynamic (flow-cell) or static (batch-cell) conditions. Modules fasten to the base with screws, use O-rings for leak-tight sealing, and allow rapid electrode exchange. Available materials include transparent PMMA (standard) and solvent-resistant PEEK (on request), supporting tailored chemical compatibility.



Electrochemical and Microfluidic Platforms

Multi-electrode Chip Platform

Multi-electrode chip platform providing up to 48 individually addressable connections to a multi-potentiostat. Accepts two 18.5×15 mm chips or one 37×15 mm chip, enabling 1–5 μL microvolume drops per cell. Compact 70×95×25 mm unit with aluminium base and methacrylate covers; includes two mini-USB boxes, two IDC connectors, and universal cables. Optional customised connectors and male/female banana terminations.



External Electrode Platform (EEP)

External Electrode Platform enables consistent positioning of one or two external electrodes for static measurements with thin-film or screen-printed setups. It fits AIO and AIO-SPE platforms and batch-cell add-ons, includes two accessories, and uses a PLA body (70 × 65 × 35 mm). Custom adaptations, such as alternative arm geometries or materials, may be feasible through bespoke manufacturing.



Replacements for Platforms

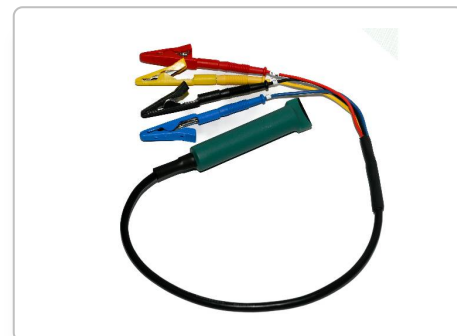
Replacements for electrochemical platforms include mini-USB cables and platform PCBs to restore connectivity and function. Cables are available with 2-mm female banana plugs (with male adapter) or 2-mm male banana plugs (with crocodile/alligator clips) to suit different instruments. Replacement PCBs are offered for single-cell and multi-channel holders. Users can typically select terminal type to match existing leads.



Microfluidic accessories

SPE Connectors

These connectors provide a simple interface between screen-printed electrodes and electrochemical instrumentation, ensuring reliable contact to working, reference, and counter pads. Options typically include cable, box, and adaptor formats for thick-film layouts (up to four pads). Terminal options are available to suit common potentiostat connections. Custom lead terminations or pad mappings can be requested for specific setups.



Thin-Film Connectors

Thin-film connectors provide a simple interface between thin-film electrodes and potentiostats. IDE-CABLE links interdigitated electrodes with two contact pads, while TF-CABLE works with standard thin-film formats up to four pads. Both support microvolume drops of 2–10 μL or immersion, with selectable 2-mm female or male banana-plug terminations to match instrumentation, enabling quick, reliable laboratory setup.



External Electrodes

Miniaturised external electrodes support electroanalytical measurements with screen-printed and thin-film sensors using compatible all-in-one platforms. Options include a silver/silver chloride reference electrode and auxiliary/counter electrodes in platinum or stainless steel. These are suited to many applications, with configurations typically adapted to platform fixtures; custom variants may be available on request via dedicated manufacturing services.



Syringe Pumps – NE Series

NE series syringe pumps provide precise infusion and withdrawal for microfluidic and laboratory applications. Compatible with syringes up to 60 mL, with maximum flow rate 20 mL/min adjustable during operation. Models include single-, dual-, and multi-channel options with programmable control. Suitable for low flow regimes and small-volume transfer. Configurations can be selected to match channel count and flow requirements.



Microfluidic accessories

Syringe Pumps – LP Series

LP series syringe pumps enable precise, small-flow liquid delivery for pharmaceutical, medical, environmental and research applications. Models are available as single or multi-channel, with infusion and withdrawal modes depending on the model, operating stand-alone or via computer. Customise by selecting channel count, operation mode and control interface to match experimental workflows.



Peristaltic Pumps

Peristaltic pumps for microfluidic and electrochemical setups provide precise liquid transfer using single or multi-channel heads. Models offer 0.1–100 rpm speed control, flow rates from 0.0002 to 32 mL/min, and options for external control or RS485 communication for automated operation. Customise with different pump heads, tubing sizes, and channel counts (including multi-channel configurations) to match required flow regimes.



Flow System Packs

Flow system packs provide the accessories needed to use printed and thin-film electrodes in flow injection analysis with the AIO or AIO-SPE platform and Flow-cell add-ons. Packs typically include PTFE tubing, fittings and ferrules, syringes, glass reservoirs, caps, tweezers and tools. Standard add-ons are PMMA; PEEK versions are available on request.



Spectroelectrochemistry

Spectroelectrochemistry Raman

Spectroelectrochemical Raman systems combine potentiostat with Raman spectroscopy to track molecular and structural changes at electrode interfaces in real time. This modular, in-situ approach enables synchronised collection of Raman spectra and electrochemical data during voltage- or current-controlled experiments, supporting aqueous or organic electrolytes and three-electrode cell configurations.

Typical applications include electrocatalysis, battery and fuel cell studies, graphene and polymer characterisation, and biosensing with surface-enhanced configurations. Compatible with most commercial potentiostats and Raman microscopes, systems can be supplied as add-on cells or as fully integrated solutions. Standard laser options commonly include 532, 633, 785, and 1064 nanometres to balance fluorescence and sample absorption. Cell formats typically include OTTLE, immersion, and transparent electrode designs. Customisation covers excitation wavelength, cell format, and electrode materials (including SERS), with synchronisation workflows; platforms expand to UV–Vis and infrared, with local training and support.



Photoelectrochemistry & Photovoltaics

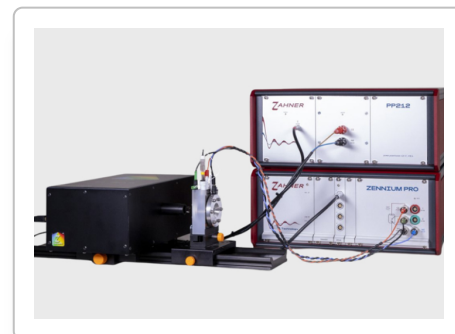
CIMPS

Controlled Intensity-Modulated Photo Spectroscopy (CIMPS) is an LED-based photoelectrochemical and photovoltaic measurement system with an active light-intensity feedback loop, enabling controlled, stable illumination for dynamic methods such as IMPS and IMVS alongside standard electrochemical techniques. It is configurable with monochromatic LEDs from ultraviolet to near-infrared, and extensions are available for emission, absorption, transmission, and light-transient workflows, supporting diverse cell configurations.



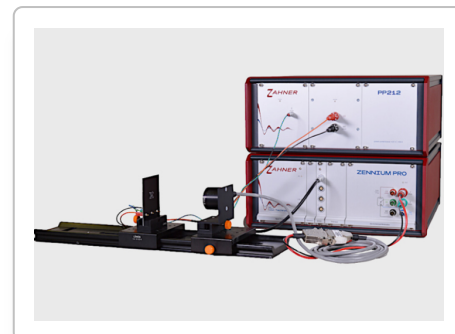
CIMPS-QE/IPCE

QE/IPCE module enables quantitative external quantum efficiency measurements for photovoltaic and photoelectrochemical devices. It uses a tuneable LED light source with a monochromator and active feedback control to maintain stable irradiance, delivering accurate illumination without warm-up. An easily mountable optical bench integrates with automated control. Customisation may include UV-range extensions and cell/fixture options to suit varied samples.



CIMPS-EMIT

This emission add-on enables integral and spectrally resolved light-emission measurements to characterise electroluminescent processes. Integral intensity uses a NIST-traceable calibrated photodetector, while spectral data use a UV–VIS–IR spectrometer. Measurements can be sequenced versus applied voltage, current or time, with optional parameters such as temperature or pH. Customisation includes integral-only or spectral configurations and spectrometer range.



CIMPS-ABS

An absorption/transmittance add-on enabling spectral-resolved measurements to characterise electrochromic processes. The setup uses a slide to alternate a measurement cell and a reference path, improving accuracy by compensating optical losses. It operates with either a high-power LED or a tungsten lamp. Customisation typically includes alternative spectrometer configurations and light-source options to match sample wavelength ranges.



Photoelectrochemistry & Photovoltaics

CIMPS-PCS

Designed for quantum-efficiency and incident-photon-to-current-efficiency measurements, this system characterises photoelectrodes and solar cells using a tunable LED source. It supports intensity modulation without mechanical choppers, with software calculating photocurrent responsivity (A/W) and IPCE spectra. Customisation includes standard 365–1020 nm or extended ~290–1020 nm wavelength ranges, with calibrated, plug-and-play setup and optional accessories for cell mounting and analysis workflows.



CIMPS-FIT

CIMPS-FIT enables fast light-intensity transient measurements to probe rapid charge-carrier kinetics in solar cells and photoelectrodes, resolving charge migration and diffusion time constants down to 50 ns. Typical configurations allow pairing with monochromatic LED arrays or a tunable light source, plus suitable cell holders and light-exclusion enclosures, to tailor time resolution, wavelength access, and sample geometry.



CIMPS-MDTR/OIS

MDTR/OIS extends a photoelectrochemical platform to quantify dynamic optical transmittance and perform optical impedance spectroscopy on electrochromic samples, smart windows or displays. A multi-spectral sensor acquires up to four wavelength channels in parallel, enabled by a four-channel A/D interface. Customisation includes user-selectable visible filters for the sensor, UV/IR channels, and a light-exclusion enclosure for stable measurements.



PEC-Cells

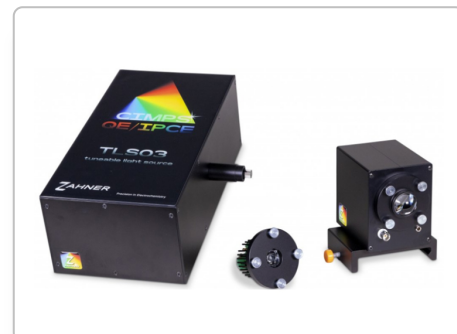
Photoelectrochemical cells for electrode testing feature chemically resistant PTFE and PCTFE bodies with an optical window on the electrolyte side, available in BK7 or quartz. Supplied with an Ag/AgCl reference and platinum counter electrode. Options include gas in/outlets and reducer kits for smaller samples (3–12 mm), accommodating various photoelectrode diameters and illumination geometries.



Photoelectrochemistry & Photovoltaics

Light Sources

Light sources for photoelectrochemical and photovoltaic measurements include modular monochromatic LEDs and tunable options spanning ultraviolet to infrared, enabling wavelength-specific excitation across approximately 275–1550 nm. These sources are designed for compatibility with controlled illumination workflows. Customisation typically includes selection of LED modules or tunable ranges and experiment-appropriate mounts, beam delivery, or cell interfaces.



Light Exclusion Box

Designed for photoelectrochemical and photovoltaic measurements, the light exclusion box blocks ambient illumination and simultaneously acts as a Faraday enclosure, reducing low-current artefacts while housing the optical bench with light source and sample. It supports reproducible measurements across modular setups. Customisation typically includes alternative cable feedthrough layouts and mounting fixtures to suit specific optical benches and cell geometries.



NEWARE Battery Cycler - NEWARE CT-4000 Series

CT-4000 – 5/10V 50mA (3 ranges)

The CT-4000 5/10 V, 50 mA system offers three current ranges—5 μ A–1 mA, 1 mA–25 mA, and 25 mA–50 mA—across 8 independent channels for precise testing of coin cells, small pouch cells, supercapacitors, and three-electrode setups. Supported methods include cycle life, rate, pulse, GITT, DCIR, and dQ/dV. Configurations can be customised to voltage and current requirements.



CT-4000 5V100mA (4 ranges)

Designed for coin cells, small pouch cells, supercapacitors and three-electrode tests, this 8-channel system provides 5 V, 100 mA capability across four current ranges (0.2 μ A–0.1 mA; 0.1–1 mA; 1–10 mA; 10–100 mA). Supported methods include cycle life, rate, pulse simulation, GITT, DCIR and dQ/dV. Features include shutdown, offline operation, overheating protection, and unified PC control; voltage/current customisation available.



CT-4000 5V 6A/12A (3 ranges)

Eight-channel system for cylindrical and pouch cells, with 5 V and three current ranges per model: 6 A (0.5 mA–0.1 A; 0.1–3 A; 3–6 A) or 12 A (5 mA–1 A; 1–6 A; 6–12 A). Supports cycle life, rate, pulse, GITT, DCIR, dQ/dV; CC, CV, CC–CV, CP, CR modes. Customisation typically includes current-range selection and integration with environmental chambers.



CT-4000 Super Capacitor Testing System (3 ranges)

Designed for supercapacitor evaluation, the CT-4000 offers three 5 V ranges: 10 mA (5 μ A–1 mA, 1–5 mA, 5–10 mA), 6 A (0.5 mA–0.1 A, 0.1–3 A, 3–6 A) and 12 A (5 mA–1 A, 1–6 A, 6–12 A). Supported methods include GITT and DCIR. Models can be customised to voltage and current requirements to suit diverse test needs.



NEWARE Battery Cycler - NEWARE CT/CTE-5000 Series

CT-5000 5V6A & 5V12A (3 ranges)

CT-5000 battery testers provide control for cell characterisation at 5 V with either 6 A or 12 A capability across three current ranges per model: 0–0.2 A, 0.2–1 A, 1–6 A (6 A); and 0–1 A, 1–4 A, 4–12 A (12 A). Eight independent channels use constant-current and constant-voltage sources in a dual closed-loop structure. Supported workflows include cycle life, rate performance, pulse simulation, DCIR and dQ/dV analysis. Safety functions include power-off protection, off-line testing, overheating protection and reverse-connection prevention. Systems can be controlled from a PC, including coordinated operation with an environmental test chamber. Suitable for coin, pouch and cylindrical cells. Customisation to voltage and current requirements is available.



CTE-5016 5V75A DSP

CTE-5016 5 V 75 A DSP is a high-current battery test system with energy feedback (“E”), designed for applications such as e-bicycles, electric vehicles and related fields. It provides 16 independent channels per unit, adjacent-channel paralleling for higher current, and SMBus/I2C communication. Supported methods include cycle life, rate charge/discharge, pulse simulation and DCIR. Safety and uptime are enhanced by power-off protection, off-line testing, overheating protection and reverse-connection prevention. Discharge energy can be recovered and redistributed, and both the test system and an environmental chamber can be controlled uniformly from a PC. Models can be customised to suit required voltage and current ranges, with DBC file import, edit and export.



CE-5000 Laptop Battery Testing System

The CE-5000 Laptop Battery Testing System evaluates laptop, tablet, and power-tool batteries with SMBus/I2C communication. Each unit offers 8 independent channels, optional parallel connection between adjacent channels, and DBC file import, editing, and export. Supported tests include cycle life, rate charge/discharge, pulse simulation, DCIR, and dQ/dV analysis. Channels use constant-current/constant-voltage dual closed-loop control with power-off protection, off-line testing, and overheating protection. Energy from discharge can be recovered and redistributed, and the system and environmental chamber are controlled uniformly from a PC. Variables: 20 V, 24 V, or 30 V with 10 A, 15 A, 20 A, or 30 A. Customisation within 10–30 V and 5–30 A; “E” indicates energy-feedback.



NEWARE Battery Cycler - NEWARE CE-6000 Series

CT-6000 Module Testing System

The CT-6000 Module Testing System is designed for performance testing of battery modules used by battery, electric-vehicle, and energy-storage manufacturers. It supports assessments of cycle life, capacity, efficiency, working conditions, state-of-charge, depth-of-discharge, float performance, and rate, with uniform PC control of charge–discharge equipment and compatible environmental test chambers. The platform uses AC/DC and DC/DC dual-stage high-frequency isolation with low-temperature-drift, high-performance 24-bit ADCs to deliver steady-state accuracy. Configurations cover 20–60 V at 60–1200 A, 60–120 V at 50–1000 A, and 120–200 V at 50–500 A. Energy produced during discharge can be recovered and redistributed. Models can typically be customised to specific voltage and current requirements.



CT-6000 Pack Testing System

The CT-6000 Pack Testing System is designed for comprehensive evaluation of battery packs across cycle life, capacity, efficiency, rate, state of charge, depth of discharge, float performance, and working conditions. It employs a dual-stage AC/DC and DC/DC high-frequency isolation architecture with low temperature drift and multichannel 24-bit ADCs, delivering stable, high-accuracy measurements. Energy produced during discharge can be recovered and redistributed, and both the charge–discharge system and environmental chamber can be controlled from a PC. Available configurations include 100 kW (500 V, 200 A), 150 kW (750 V, 200 A), and 300 kW (1000 V, 300 A). Customisation is possible.



CT-6000 Cell Testing System

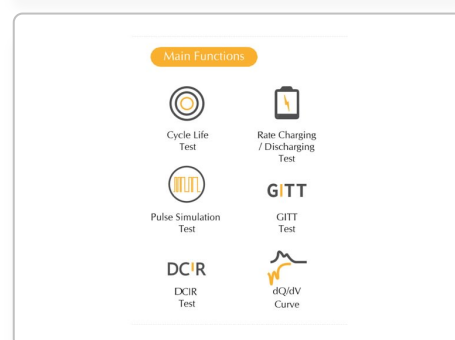
The CT-6000 Cell Testing System supports battery evaluation for energy-storage applications, covering cycle life, capacity, efficiency, working conditions, float performance, state of charge, depth of discharge, and rate testing. It uses AC/DC and DC/DC dual-stage high-frequency isolation with low-temperature drift and a multichannel 24-bit ADC for steady-state accuracy above traditional equipment. Discharge energy can be recovered and redistributed, and the system plus environmental chamber can be controlled from a PC. Configurations include 5 V or 6 V with current options of 75 A, 150 A, 300 A, 600 A, and 1200 A. In the related CE-6000 series, “E” denotes energy-feedback; other models can be customised by voltage and current.



NEWARE Battery Cycler - NEWARE CT/CTE-8000 & 9000 Series Battery Simulation Testers

CT/CTE-8000 Simulation Battery Testing System

The CT/CTE-8000 Simulation Battery Testing System enables realistic load profiles for power and energy-storage batteries, supporting assessments of cycle life, capacity, efficiency, working conditions, float performance, SOC, DOD, and rate. The CTE variant includes energy feedback to recover and redistribute discharge energy. A dual-stage AC/DC and DC/DC high-frequency isolation design with low temperature drift and multichannel 24-bit ADC helps deliver steady-state accuracy superior to traditional systems. Unified PC control can coordinate the charge-discharge tester and an environmental chamber. Model options include 5 V channels with current ranges typically spanning 30 A to 1000 A, depending on configuration. Customisation is available to match specific voltage and current requirements.



CT-9000 Ultra-Precision Battery Testing System

The CT-9000 is an ultra-precision battery testing system for rigorous evaluation of coin cells, pouch cells and three-electrode setups in academic, research and 3C applications. A modular architecture provides 4 or 8 independent channels per unit, enabling parallel experiments with high sampling accuracy, fast response and precise control across a wide measurement range, including test currents down to 0.1 μA . Supported methods include cycle life, rate charge/discharge, DCIR and pulse charge/discharge testing, with data captured for detailed analysis. Models can be customised to specific voltage and current requirements to match cell formats or protocols, with options typically extending to integrated fixtures and accessories for laboratory battery workflows.



NEWARE Battery Cycler - EIS Battery Cycler Series

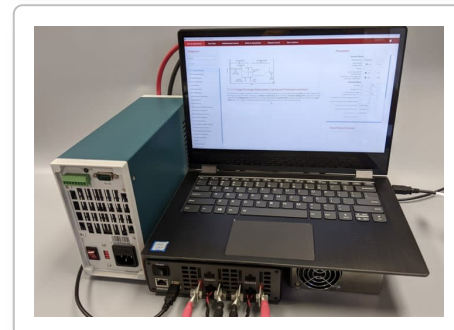
Squidstat EIS Cycler Base Model

Designed for high-power batteries and fuel cells, this EIS-enabled cycler provides 24-bit ADC measurement with 0.06 ppm voltage resolution and per-channel impedance spectroscopy up to 10 kHz. Each channel supports 2-, 3-, or 4-electrode connections and includes a temperature sensor. Supported techniques include capacity, constant-C/constant-V, constant-R/constant-P charge–discharge, chronoamperometry, chronopotentiometry, cyclic and linear sweep voltammetry, square-wave and staircase voltammetry, open-circuit monitoring, PITT, GITT, and Mott–Schottky. Configurations span a handheld 4-channel unit or rack-mounted systems; channels can be paralleled to reach up to 1000 A. Typical customisation covers a 0–60 V scan range and ± 60 A maximum per channel, channel count, and form factor, with drag-and-drop workflow control.



Squidstat EIS Cycler Customisation Options

Designed for batteries, supercapacitors, and fuel cells, this EIS-capable cycler offers customisation. It is configurable to a 0–60 V voltage scan range and ± 60 A per channel, with up to 3 kW per channel. Channels can be paralleled to 1000 A at 60 V with 120 kW combined power. Multichannel 19" rack-mount builds scale to tens, hundreds, or thousands of channels. Channels may be set to four-quadrant bipolar operation, and bidirectional supply configurations conserve power. An application programming interface is available for integration and automation. Typical customisation paths include selecting per-channel ranges, combining channels for higher current, and integrating with facility control.



Battery Environmental Test Chambers

Coin Cell All-in-one Testing System

This coin cell all-in-one testing system integrates charge–discharge functionality with constant temperature control for precise battery performance assessment. It supports cycle life, temperature-condition and reliability testing via a combined air regulation channel and BTS-based parameter control. Standard 200 L, 160-channel configurations are offered, and systems can typically be tailored for alternative capacities or channel counts.



Mini-All-in-one Testing System

The mini all-in-one testing system combines environmental control and battery charge–discharge capability in a compact chamber for early-stage R&D. Model MHW-25-s-16CH provides 25 L volume with 16 channels and 360 × 300 × 235 mm internal space in a 440 × 580 × 410 mm enclosure. Configurations can typically be customised for cell formats and channel counts.



Mini Constant Temperature Test Chamber

Mini constant temperature test chamber (model MHW-25) provides PID-controlled conditions for coin and pouch cell performance studies, with 25 L capacity and 16CH layout in a compact 360 × 450 × 500 mm footprint, internal 280 × 250 × 360 mm. PC control unifies chamber and tester; cell fixtures or channel arrangements can typically be customised.



All-in-One Battery Testing System

This all-in-one battery testing system integrates a high-precision cyler with a temperature-controlled chamber for solid-state, EV and consumer cell evaluation. It supports multi-zone PID control, rapid temperature transitions, and channel configurations from 16CH to 160CH. Chamber volumes typically span 100–400 L. Custom configurations for larger capacities or specialised test profiles can be discussed.



Battery Environmental Test Chambers

Constant Temperature Test Chamber

This constant temperature test chamber is designed for battery temperature performance and reliability testing, combining fan, heater, evaporator and PWM control for stable conditions. It accommodates up to four insulated wooden layers, each for 40 snap-on batteries, and integrates with charge–discharge systems via PC. Custom capacities or fixtures can typically be supplied.



High and Low Temperature Test Chamber

High and low temperature test chamber provides controlled dry or moist heat with high-performance temperature control and refrigeration, enabling rapid transitions between -70°C and 150°C where configured. Capacities from 150 to 1000 L support varied battery or materials testing. Optional humidity, explosion-proof features, and PC-integrated control allow tailoring to laboratory requirements.



Explosion-Proof Test Chamber

The explosion-proof test chamber enables controlled testing of energy storage samples in situations where ignition or rapid gas release may occur, using a robust, sealed structure to help protect operators and facilities. It typically supports integrated monitoring and safety interlocks, with customisation available for chamber volume, observation windows, ports, and compatible test fixtures.



4 Temperature Zone All-in-one Testing System

This four-temperature-zone all-in-one testing system integrates battery charge–discharge control with independent thermal chambers, enabling simultaneous evaluation under varied temperature conditions. It provides 25 L \times 4 capacity with 16 channels per zone (64 channels total) for coin or small cells. Custom chamber volumes or channel counts can typically be offered to suit specific test regimes.



Battery Cycler Accessories

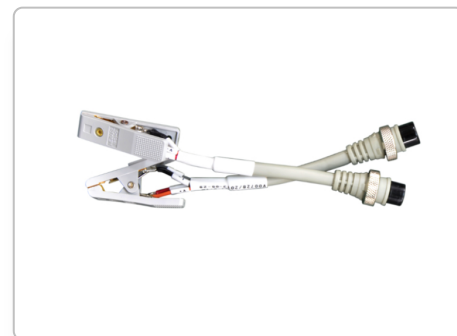
Alligator Clamp

Alligator clamps provide quick, secure connections to diverse battery terminals during charge–discharge testing and prototyping. Their serrated jaws and conductive metals help maintain stable contact for accurate measurements and reduced contact resistance. Options typically include different cable lengths, insulation colours, and higher-current versions to suit pouch, cylindrical, or prismatic cell fixtures.



Coin Cell Clamp

This coin cell clamp provides a stable, low-resistance connection between coin cells and battery testing channels, supporting reproducible charge–discharge data. It is typically used with modular battery cyclers for laboratory evaluation. Customisable lead lengths, connector types and clamp materials may be available to suit different fixture layouts and cell formats.



Polymer Clamp

This polymer clamp secures polymer pouch cells for charge–discharge cycling, formation capacity evaluation, and related performance tests, ensuring stable electrical contact during battery cycler operation. It is suitable for laboratory and pilot-line battery workflows. Custom configurations, such as alternative clamping dimensions or cell-holding inserts, can typically be supplied to match specific pouch formats.



Toggle Clamp

This toggle clamp secures cylindrical cells during charge–discharge testing, voltage checks and formation processes by providing firm, repeatable contact pressure for reliable data. It is suited to lab battery cycler setups where stable positioning is essential. Configurations can typically be customised for different cell diameters, fixtures or lead terminations as required.



Battery Cycler Accessories

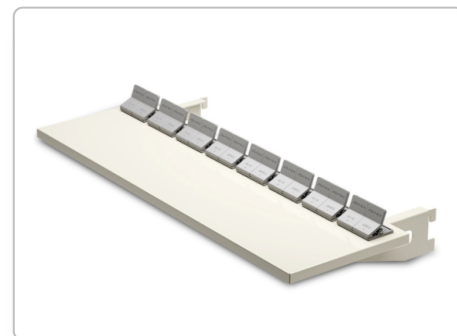
Ring Connector

Ring connectors provide a secure, stable interface between the battery terminal and the testing system, helping maintain consistent contact and low-resistance measurements for cycling applications. They are typically available in multiple ring sizes, cable lengths, and insulation options to suit different terminal types and test setups, supporting reliable charge–discharge characterisation.



Clamp Holder

This clamp holder provides a stable mounting point for cell clamps during battery charge–discharge testing, helping maintain consistent contact and reducing operator handling errors. It is typically compatible with standard fixture designs used in laboratory battery cyclers. Custom clamp interfaces or dimensions can usually be supplied to match specific cell formats or rack layouts.



Handheld Raman spectrometers - General Applications

RS1000 Handheld Raman - 785 nm

RS1000 Handheld Raman – 785 nm is a handheld Raman spectrometer for rapid, non-destructive material identification in QA, education, field inspection and basic research. It uses an intuitive 5" touch screen with big-button operation and records detailed results including name, property, spectrum, MSDS, report, image, location, operator, date and time. Compact 160*84*30 mm (without probe) housing suits mobile tasks.

Wireless and wired options (Wi-Fi, 4G, Bluetooth, Micro-USB) simplify data transfer to site or laboratory systems. A rechargeable lithium battery supports 4–6 h field use, while a –20~50°C operating range enables reliable deployment in outdoor, industrial or educational environments. Data capture supports traceable reporting in routine screening tasks.

Key Specifications

- Size: 160 x 84 x 30 mm (without probe)
- Display: 5" touch screen
- Connectivity: Wi-Fi, 4G, Bluetooth, Micro-USB
- Power: Rechargeable lithium battery, 4–6 h
- Operating temperature: –20~50°C for field deployment environments
- Operation: Big-button interface



RS1500 Handheld Raman - 1064 nm

RS1500 Handheld Raman - 1064 nm is a JINSP Raman identifier using Raman spectroscopy, intelligent algorithms and an extensive spectrum library to identify suspicious materials on site, including general chemicals, chemical weapons, toxic substances, explosives, drugs and precursors. The 1064nm laser reduces fluorescence interference, delivering more accurate results than 785nm or 830nm devices for customs supervision, drug prohibition, emergency management and defence tasks. It supports rapid, non-destructive field screening by operators.

It offers automatic calibration, a built-in microscope for small particles, and can assess ignition risk to stop the laser automatically. The device penetrates brown glass, some envelopes and plastic packaging, enabling mobile, multilingual teams to operate efficiently across agencies in the field.

Key Specifications

- Laser: 1064nm
- Spectrum library: >13,000 species
- Contraband spectrum library: >3,000 species
- Size: 176 x 87 x 33mm
- Weight: 730g (including battery)
- Connectivity: USB / Wi-Fi / 4G / Bluetooth



Handheld Raman spectrometers - Pharma

RS1000DI Pharma Analyser - 785 nm

This handheld Raman instrument enables rapid drug and material identification across pharmaceutical workflows. It supports 100% package-by-package inspection of raw materials, excipients and packaging in warehouses and production areas. Using non-destructive Raman through glass, plastic and woven bags, it verifies material correctness and aligns with Chinese Pharmacopoeia 2020 identification practice.

Its compact, lightweight design supports movement between sites, while measurement removes sampling and supports operator safety. Compliance with FDA 21 CFR Part 11 and GMP facilitates method establishment, verification and certification, and meets the needs of multiple production environments.

Key Specifications

- Instrument type: Handheld Raman drug identification analyser
- Excitation wavelength: 785 nm
- Identification speed: Within a few seconds
- Measurement mode: Non-destructive through common packaging
- Regulatory compliance: FDA 21 CFR Part 11 and GMP
- Application scope: Raw materials, excipients, packaging materials



RS1500DI Pharma Analyser - 1064 nm

RS1500DI Pharma Analyser - 1064 nm is a handheld Raman instrument for non-destructive identification of raw materials, excipients and packaging in warehouses and production areas. Using a 1064 nm laser to reduce fluorescence, it supports QA/QC workflows and enables direct verification through glass, plastic, paper and woven bags in regulated environments.

The analyser delivers results in seconds without sampling, improving operator safety and traceability for incoming goods inspection. Its form factor allows flexible use across sites and supports compliant pharmaceutical quality systems and routine verification tasks.

Key Specifications

- Laser wavelength: 1064 nm
- Identification time: within a few seconds
- Measurement mode: through glass, plastic, woven bags and paper
- Regulatory compliance: FDA 21 CFR Part 11 and GMP
- Spectral library: 13,000+ reference materials
- Portability: lightweight, portable for warehouse



Lab Raman

Raman microscope

Raman microscope integrates RS2000LAB, RS2100LAB and RS3100 Raman spectrometers with a microscope platform for micro-Raman analysis of solids and powders. It provides high sensitivity, high signal-to-noise ratio and broad spectral coverage for drug crystal-form evaluation, polymer studies, food safety and environmental monitoring. Systems can be configured with multiple excitation options and four-channel arrangements to match varied detection requirements. Non-destructive measurement through semi-transparent packaging supports laboratory, regulatory and quality-control tasks.

User-friendly software supports spectral acquisition, processing, comparison and calibration on operating systems. Modular accessories including adjustable stages and detection chambers allow flexible sample handling and later expansion, ensuring reliable performance across research, pharmaceutical and industrial workflows.

Key Specifications

- Models: RS2000LAB, RS2100LAB & RS3100
- Excitation: 785/1064/532 nm
- Laser: 0~500/0~1200/0~100 mW
- Resolution: <6/<9/<8 cm⁻¹
- Stability: <0.01 nm
- Temp: 0~40 °C/-20~55 °C



OptiProbe Raman

OptiProbe Raman is a transmission-spectrometer-based system for material identification, process studies and multi-channel spectral comparison. Using a transmission spectrometer core, it supports up to four optional channels and coupling to a microscope for micro-Raman. A deeply cooled, high-SNR detector enables stable measurement of weak signals and supports quantitative methods. Software provides acquisition, smoothing, noise reduction, subtraction and comparison.

The system runs on 100–240 VAC for straightforward laboratory integration and outputs spc, txt and prn files for downstream analysis. An operating range of 0–40 °C suits controlled environments and permits configuration with additional accessories when required for routine quality and research tasks.

Key Specifications

- Core design: Transmission spectrometer
- Channels: Four optional
- Detector: Deeply cooled
- Software: Data acquisition
- Temperature: 0–40 °C



Lab Raman

Confocal Raman Microscope

Microscopic confocal Raman spectrometer with compact design, high performance and expandability, equipped with an optical system with aberration correction for macro and micro Raman studies. The system can be configured with up to four laser lines and four diffraction gratings, and uses a highly sensitive back-illuminated CCD detector for precise spectral acquisition. Professional analysis software supports Raman and fluorescence microscopy, polarisation microscopy, baseline subtraction, quantitative analysis and custom spectral libraries.

Motorised XY stage with high positioning accuracy enables high-speed Raman microscopy and mapping across samples. Software-controlled laser, filter and grating switching simplifies operation, while the system's modular components allow extension to in situ experiments and additional spectroscopy sets for research laboratories.

Key Specifications

- Detector: Back-illuminated CCD array
- Laser lines: Up to 4
- Confocal aperture: 10–500 μm
- Spectral range: 200–1450 nm
- Motorised stage travel: $\geq 30 \times 30$ mm
- Spectral repeatability: ± 0.8 cm^{-1}



Raman Probe & Flow Cell Options

ScienceGears Raman probe and flow cell options deliver modular sampling for laboratory and process Raman spectroscopy using PR-series probes. The PR100 probe supports off-line analysis and works with three excitation wavelengths, 532 nm, 785 nm, and 1064 nm, to measure liquid or solid samples, or to couple to a microscope for micro-analysis and flow-through studies.

Immersion designs such as PR200, PR201, PR202, and industrial PR300 allow in situ reaction tracking, bioprocess monitoring, or high-pressure pipelines with corrosion-resistant construction. Configurable probe tube dimensions and fibre routing support integration with existing Raman spectrometers and scalable deployment across laboratories or pilot plants.

Key Specifications

- Probe range: PR100, PR200/PR201, PR202, PR300
- Excitation wavelengths: 532 nm, 785 nm, 1064 nm
- Sampling modes: Off-line, in situ, flow cell
- Process connection: Side-window reactor compatible
- Port interface: PG13.5 threaded option
- Build: Corrosion-resistant, pressure-resistant





Explore our precision instruments designed for electrochemical and spectroscopy research across energy and scientific applications.

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