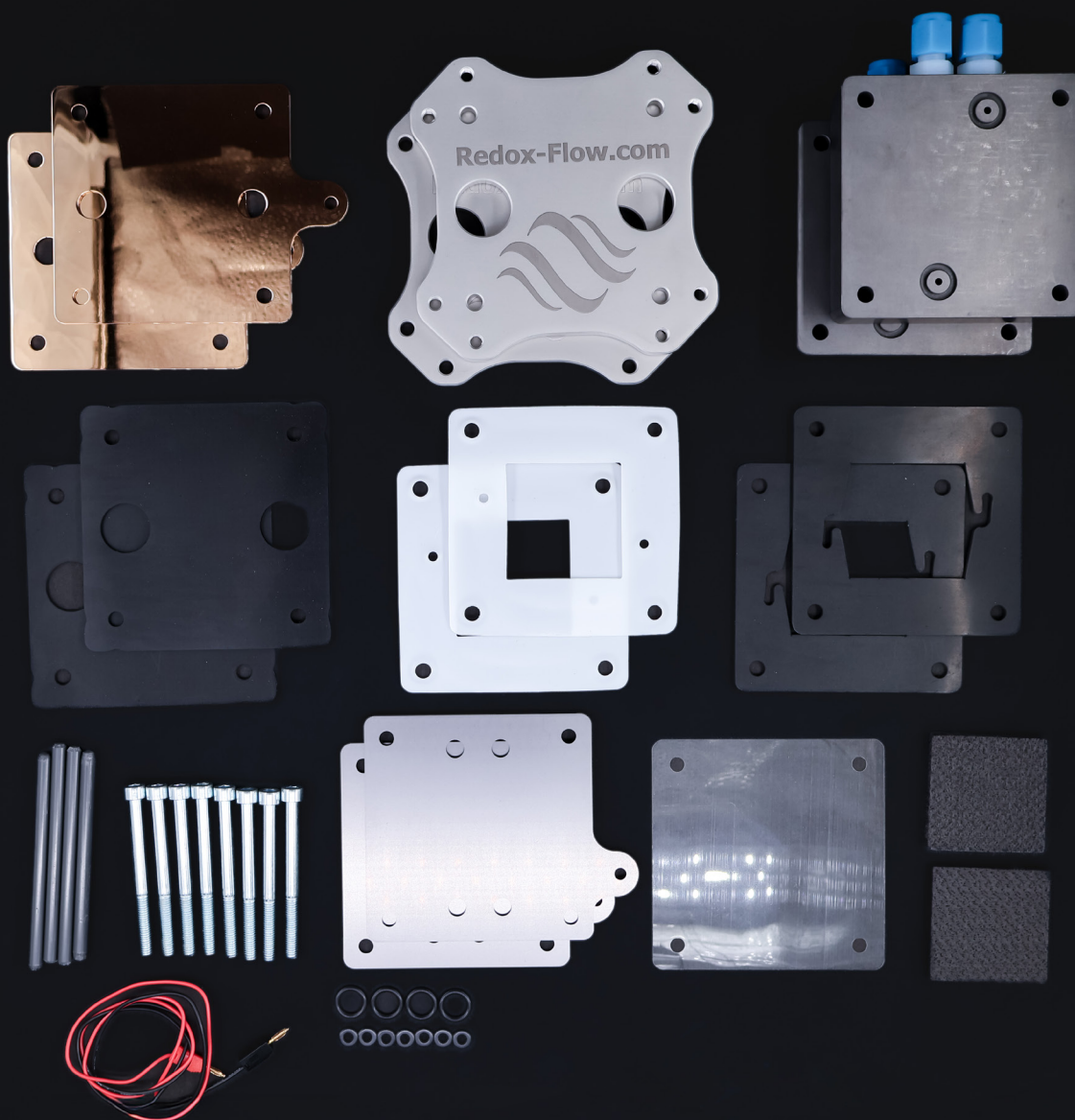
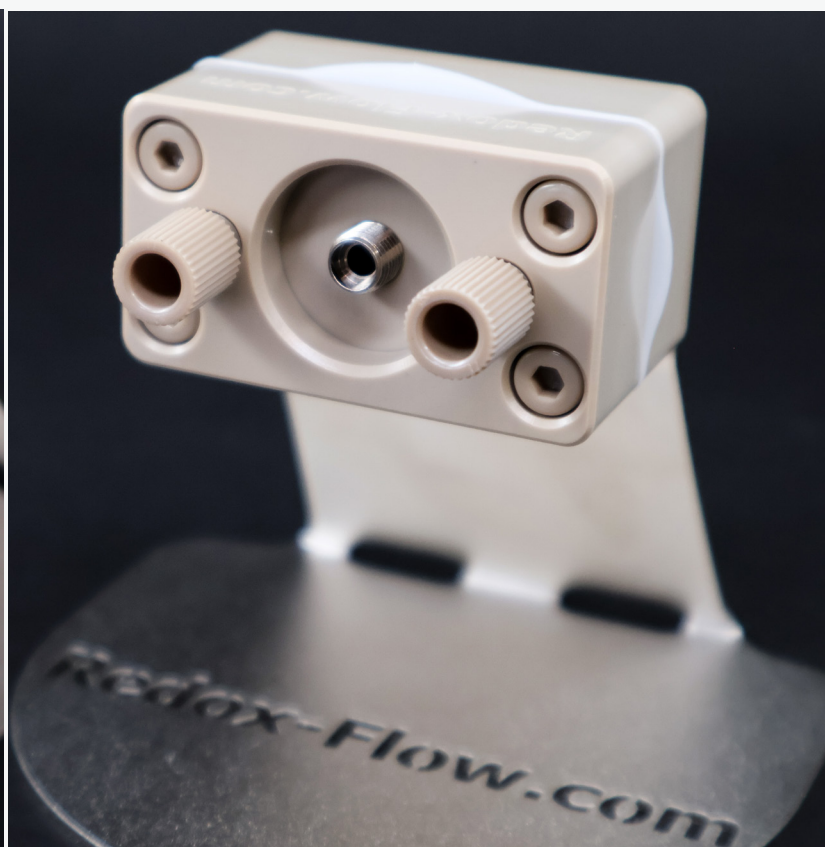


PUBLISHED 2026

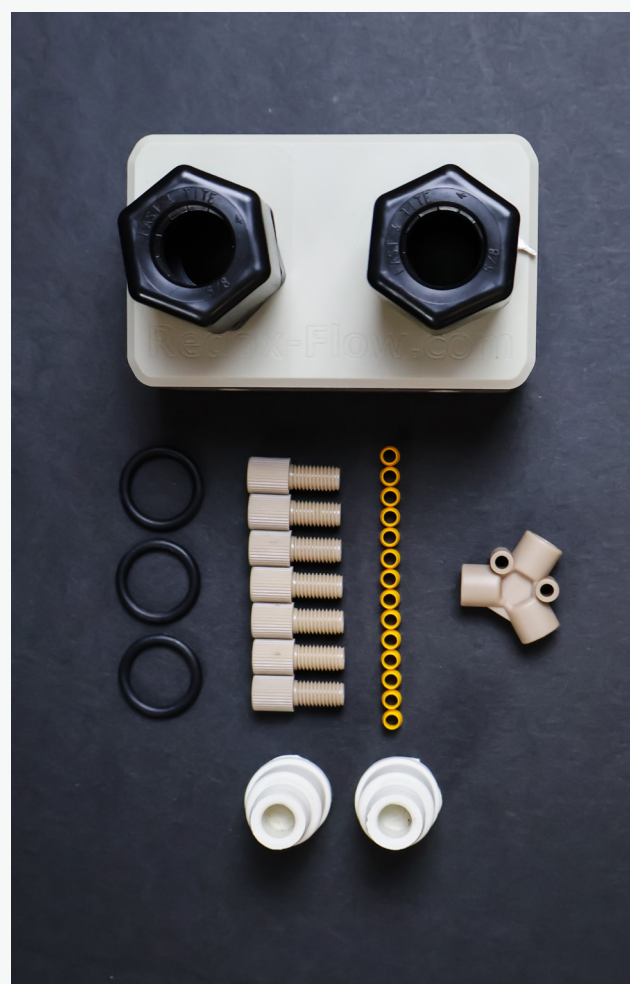


ACCESSORIES

INLINE MEASUREMENTS & CELL
PARTS FOR R&D SETUPS



Quality Flexible Solutions for **Electrolysis** in *R&D*



Accessories

No flow experiment runs on the cell alone. Redox Flow's accessories cover everything around it: OCV and UV/Vis cells, flow-through electrode holders, and pressure sensors for inline measurement; temperature control units built to integrate straight into your setup; complete hydraulic packs with fittings, tubing, and a reservoir sized to your needs; and, for switching chemistries, cell parts and consumables - flow bodies, current collectors, gaskets, membranes, electrodes.

All designed and tested in-house. Less time on setup, more time on the science.

Contents

Inline Measurement	Open Circuited Voltage (OCV) Cell
	UV/VIS Fiber Optical Flow Cell
	Differential Pressure Sensor
	Reference Electrode Holder
Accessories	Temperature Control
	Gas Separation Unit
Hydraulics	Hydraulic Connection Packs
	Pumps
Cell Parts	Flow Bodies
	Electrodes
	Membranes

Designed for versatility.



REDOX FLOW

Inline Measurement





Open-Circuit Voltage Cell

Flexible and chemically resistant OCV cell that can be readily integrated into your setup.

Configurations

STANDARD

Standard OCV cell with one chamber for anode and another for cathode.

WITH INTERNAL REFERENCE

Adds a central reference chamber between the anode and cathode sides, circulating a reference electrolyte (e.g. V^{3+}/V^{4+} for vanadium systems, or Zobel solution for neutral/alkaline chemistries). This lets you resolve the OCV into separate positive- and negative-side redox potentials — without external reference electrodes.

UNIQUE DESIGN WITH MIDDLE CHAMBER

Integrated reference cell for accurate anode/cathode potential measurement

GRAPHITE FLOW BODIES

Durable graphite flow bodies ensure chemical resistance and stability

FITTINGS

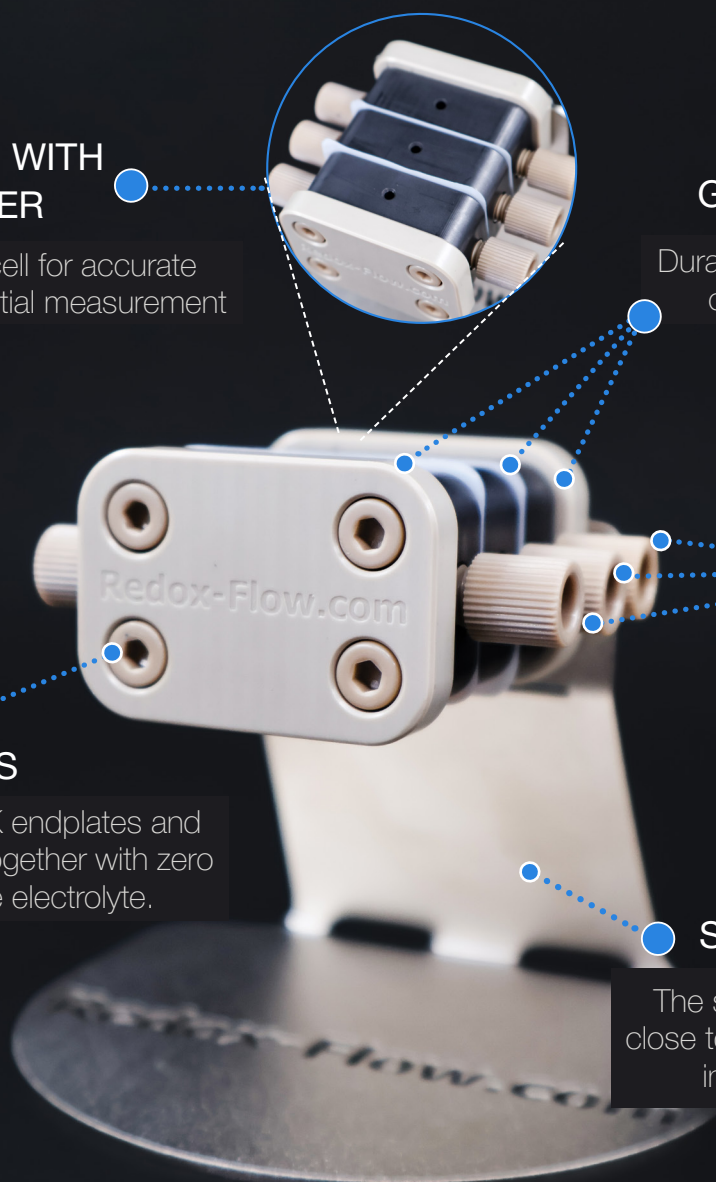
For standard 1/8" inch tubing

PEEK ENDPLATES

Chemically inert PEEK endplates and bolts clamp the cell together with zero metal contact with the electrolyte.

STAINLESS STEEL STAND

The stand keeps the cell upright and close to your main cell, minimizing tubing length and shunt-current risk.

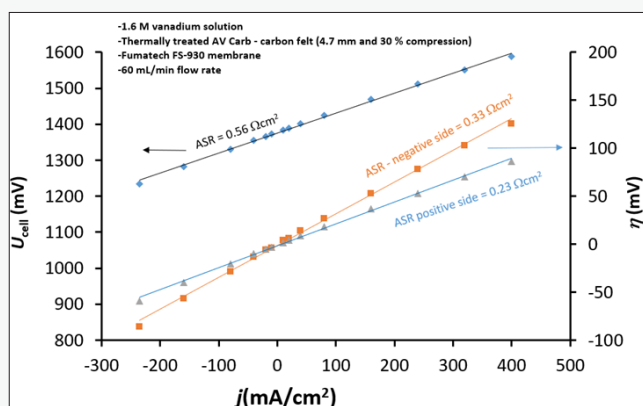




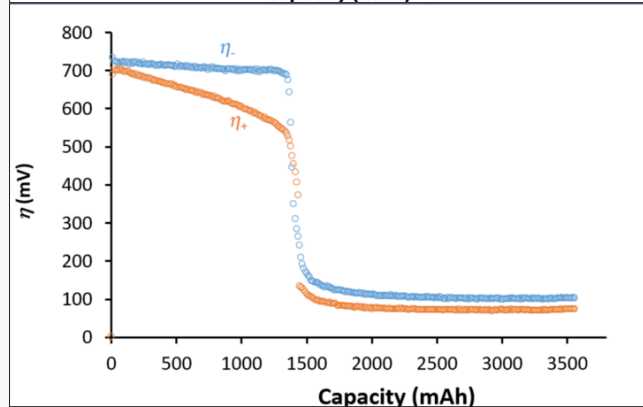
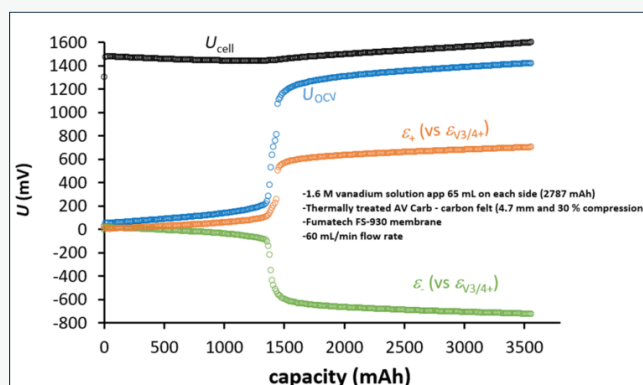
Performance Data

Data was documented in our whitepaper *Measurement of Overpotentials and Liquid Potentials in Flow Batteries*.

SETUP WITH REFERENCE ELECTRODES AND OCV CELL

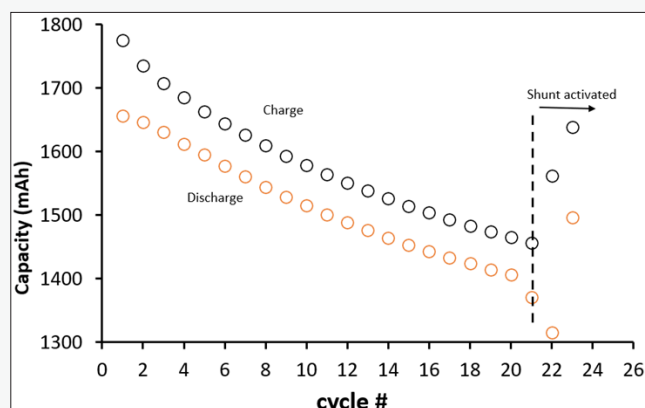


Polarisation curve and overpotentials for both negative and positive side.

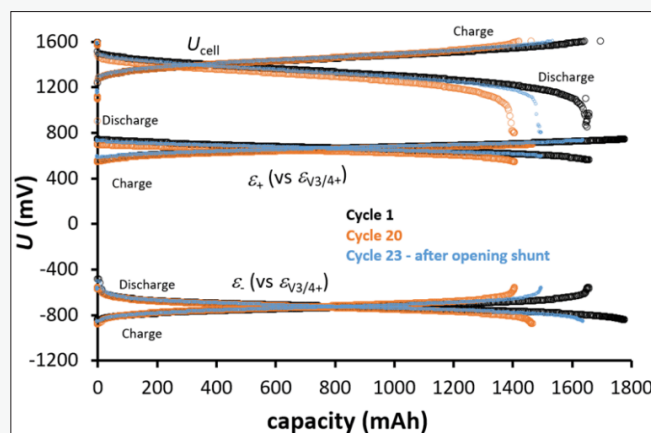


First initial (pre) charging of a vanadium flow battery with full mapping of all energy levels in one single experiment.

SETUP WITH OCV CELL WITH INTERNAL REFERENCE



Charge/discharge capacity vs cycle number. First cycle that includes pre charging is not included. After cycle 21 shunt between the two bottles is activated.



U_{cell} , ϵ_- and ϵ_+ for cycle 1, 20 and 23 on charge and discharge.

Read the full whitepaper



REDOX FLOW

UV/VIS Fiber Optical Flow Cell

An in-line UV/Vis flow cell for real-time electrolyte monitoring, engineered with an internal hydraulic bypass so you get high flow rates (>100 mL/min) with minimal pressure loss.

Specifications

ADJUSTABLE PATH LENGTH

A set of interchangeable spacer gaskets lets you tune the optical path from 0.05 mm to 8 mm. Combine gaskets for lengths beyond that. Match the path length to your electrolyte's absorbance for optimal signal.

WIDE CHEMICAL COMPATIBILITY

Choose PTFE, EPDM, or Viton gaskets to match your electrolyte chemistry, with a PEEK flow body and quartz optical windows compatible across the full pH range.

HIGH-FLOW BYPASS DESIGN

An internal hydraulic bypass keeps pressure drop low even at higher flow rates.

QUARTZ OPTICAL WINDOWS DESIGN

UV/Vis-transparent quartz windows on both sides give a clear, distortion-free optical

PEEK FLOW BODY

A chemically inert PEEK flow body keeps your electrolyte away from metal.

FITTINGS

For standard 1/8" inch tubing.

SMA 905 FIBER CONNECTOR

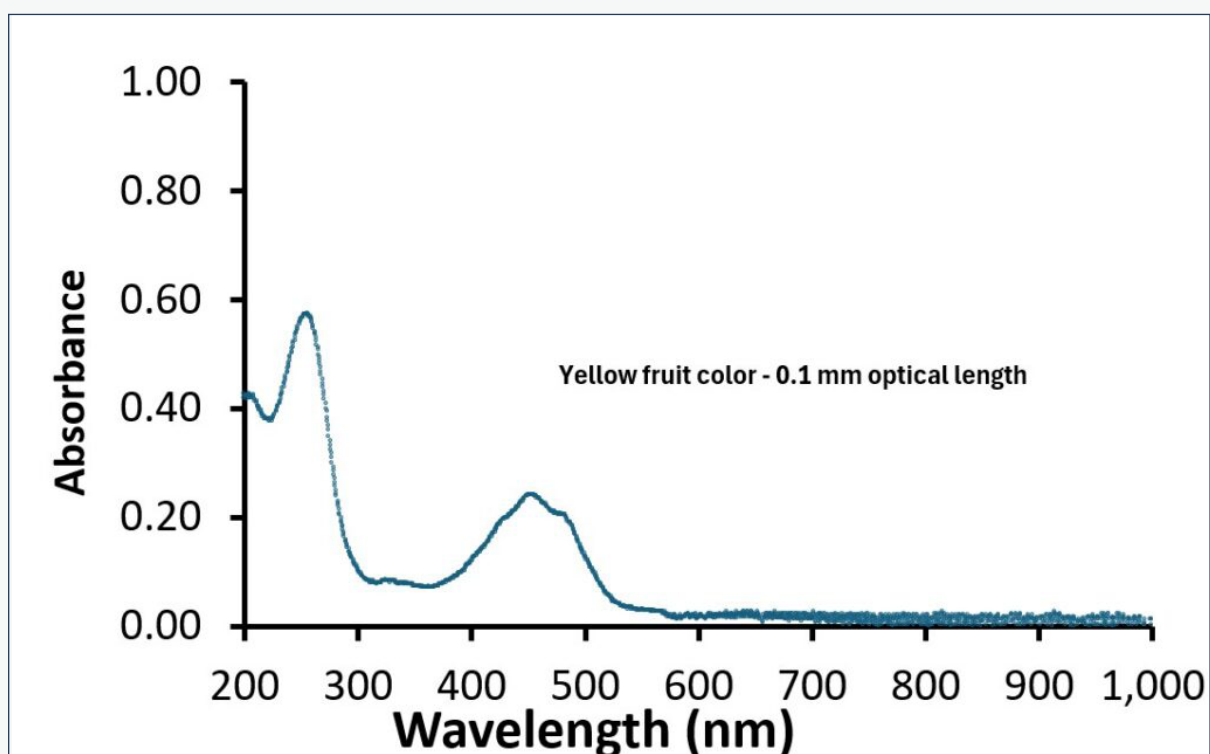
Standard SMA 905 connectors for easy integration.

STAINLESS STEEL STAND

The stand keeps the cell upright and close to your main setup.



Performance Data



Graph shows absorbance measured in UV/VIS cell with 0.1 mm optical length on 'yellow fruit color' diluted with 1:10.



Differential Pressure Unit

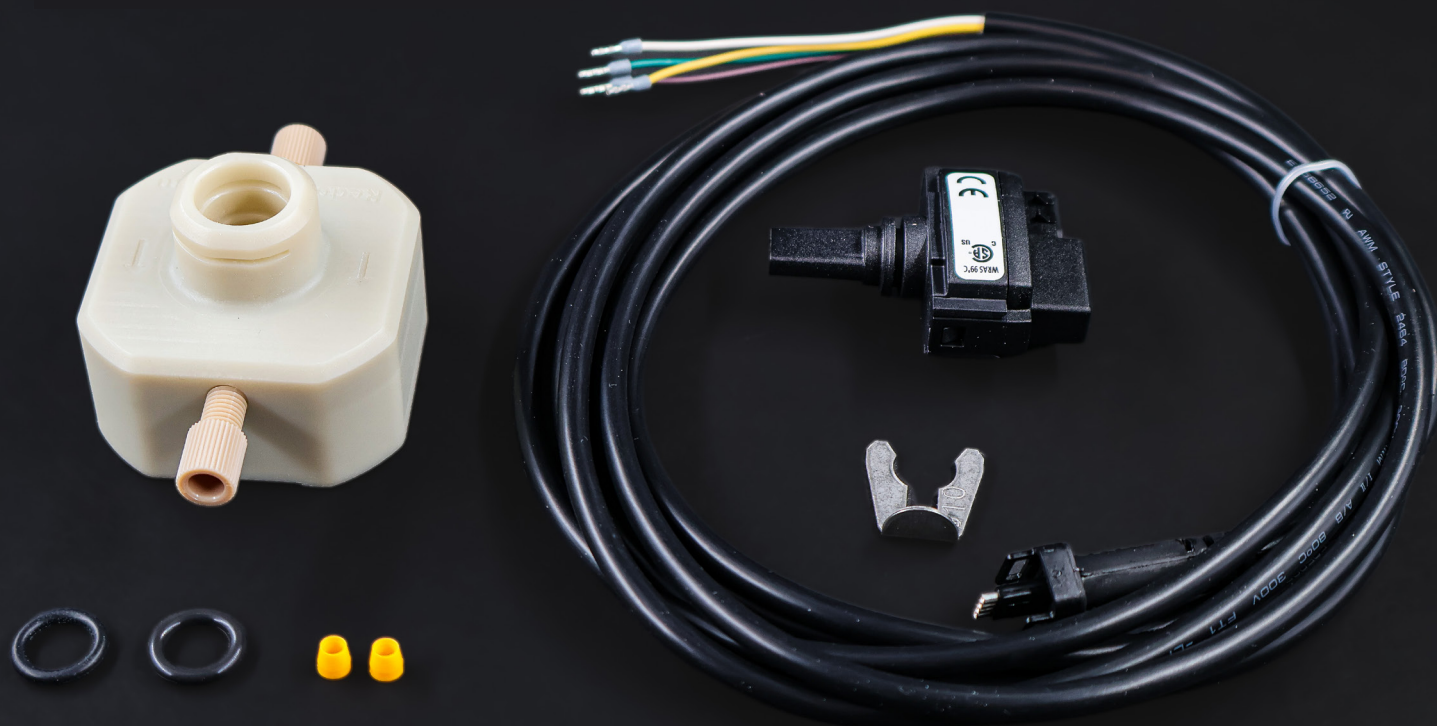
A Grundfos pressure and temperature sensor that drops inline with your cell, letting you determine the hydraulic resistance of your electrodes and flow channels in real time.

PRESSURE + TEMPERATURE

0–1.6 bar pressure and temperature from a single probe, both via a 0.5–3.5 V analog signal.

CHEMICAL COMPATIBILITY

Wetted parts are limited to PPS, EPDM/Viton, and polypropylene.



FITTINGS

For standard 1/8" inch tubing.

SENSOR CABLE

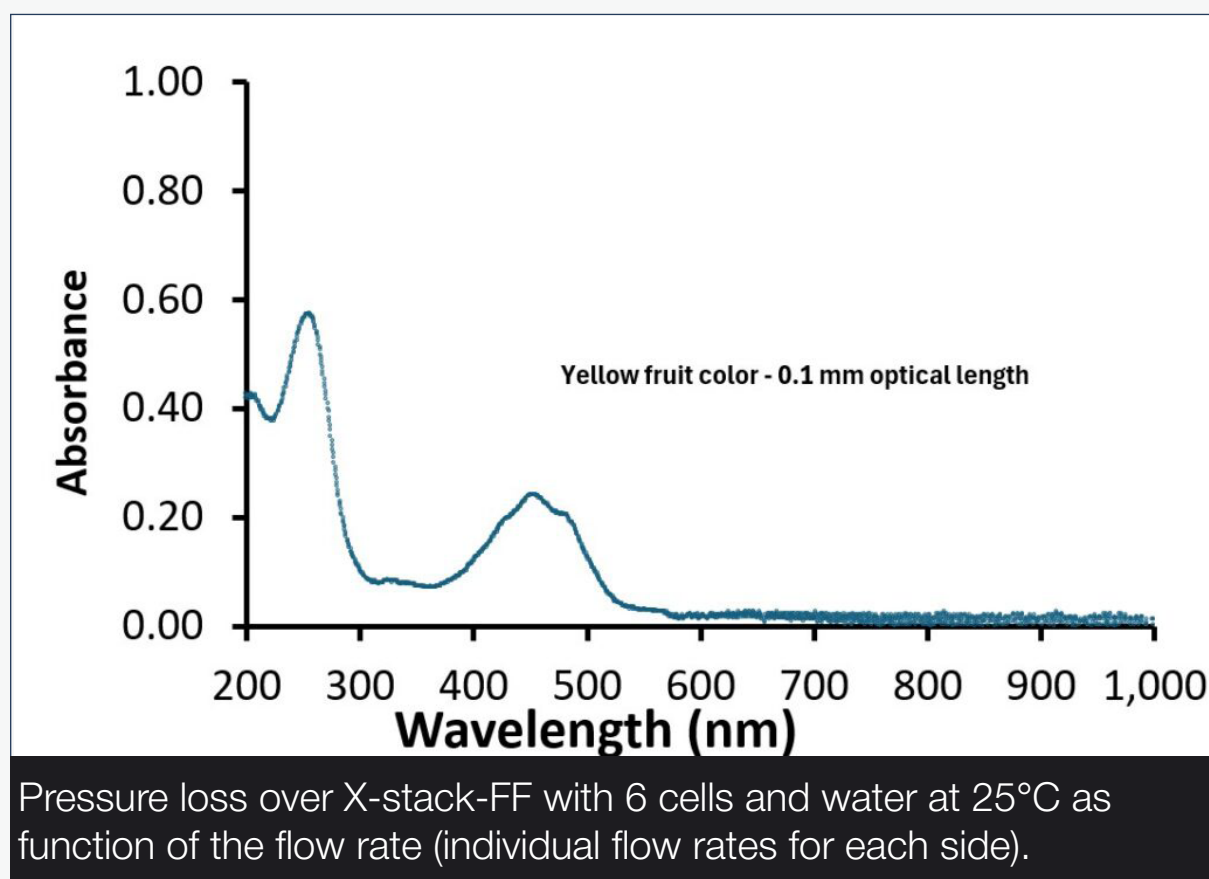
Color-coded leads for 5V power, pressure, and temperature signals — wire directly into your data acquisition setup.



Performance Data

Data was documented in our whitepaper *X-Stacks With Flow Field and Flat Surface Current Collectors*.

To confirm that the pressure loss in the X-stack-FF (current collectors with interdigitated flow field) is in an acceptable range, it was measured using Redox Flow pressure units, that are placed at the stack hydraulic inlet and outlet.



Read the full
whitepaper



Flow-Through Electrode Holder

A universal inline holder for rod-type electrodes (pH, ORP, reference, or custom) covering $\varnothing 3\text{--}17$ mm across four interchangeable kits. Use it flow-through for in-line monitoring, or sealed off as a Luggin capillary.

STAINLESS STEEL TOP PLATE

Cross-tightened bolts compress the seal evenly around the electrode, with a quick tug-test to confirm it's secure.

COMPRESSION RING SYSTEM

A stack of interchangeable compression, support, and O-rings seals around any



POLYPROPYLENE BODY

A chemically resistant PP flow body keeps wetted parts limited to PP and EPDM/VITON O-rings.

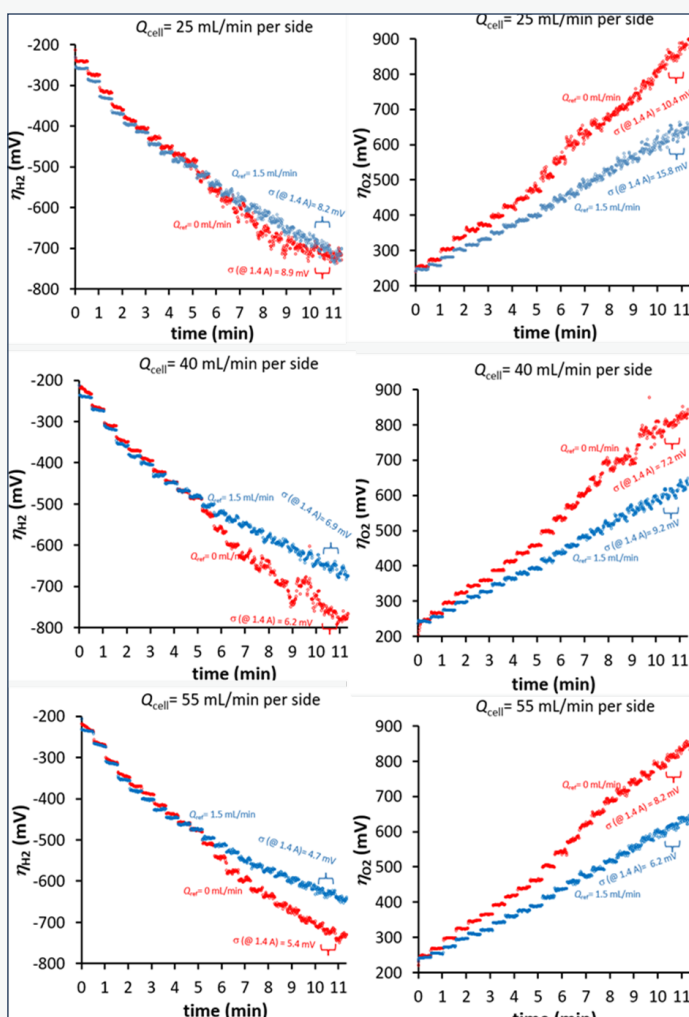
FITTINGS

For standard 1/8" inch tubing.

Performance Data

Data was documented in our whitepaper *Accurate Overpotential and Reference Electrode Measurements in Water Electrolysis Using the 1 cm² M-Cell*.

The graph shows the measured overpotentials at room temperature for hydrogen evolution and oxygen evolution obtained using one common reference electrode (whereby $U_{\text{cell}} = 1.23 \text{ V} + \eta_{\text{H}_2} + \eta_{\text{O}_2}$ all times). The data are presented as a function of time in order to focus on the fluctuations in the measured potentials. For each of these flow rates, measurements were performed both with and without electrolyte flow in the reference electrode circuit.



Measured hydrogen and oxygen overpotentials at room temperature obtained using a common Hg/HgO reference electrode under different electrolyte flow conditions. Measurements were performed both with and without electrolyte flow through the reference electrode circuit. Continuous flow through the Luggin capillaries significantly reduces noise in the measured potentials by preventing bubble accumulation in the reference electrode pathway.

Read the full
whitepaper





REDOX FLOW

Accessories



Temperature control

Three interchangeable configurations (single flow, double flow, high power). Supports heating via hotplate, heater cartridges, or liquid circulation. Built from chemically resistant materials.

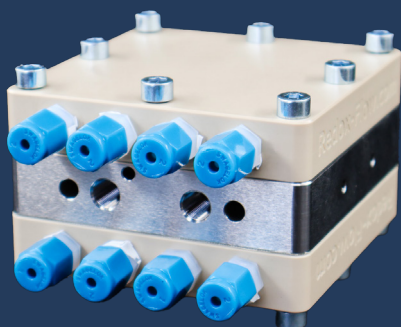


Double flow

Can be operated using

- heating on a lab hotplate*
- heat cartridges inserted into the unit (not included)
- cooling and heating water/liquid

Can heat two electrolyte streams at the same time.



High power

Can be operated using

- heat cartridges inserted into the unit (not included)
- cooling and heating water/liquid

Can heat two electrolyte streams at the same time.

For stacks or other applications where higher heating or cooling powers are needed



Single flow

Can be operated using

- heating on a lab hotplate*
- heat cartridges (not included) inserted into the unit
- cooling and heating water/liquid

Can heat only one electrolyte stream.

* Not included.



H₂/O₂ Gas Separation Unit



Separates hydrogen and oxygen from your electrolyser's outlet stream before they reach a shared electrolyte bottle - simple, gravity-driven separation, no moving parts.

Specifications

GRAVITY-DRIVEN SEPARATION

Liquid carrying dissolved H₂ or O₂ enters at the top of each column and settles by gravity. Gas vents upward while degassed electrolyte flows out the bottom into your shared bottle. Flow rate is tuned by liquid height and by swapping between the included 1.6 mm and 2.2 mm ID tubing.

HYDRAULIC SETUP

Includes a PEEK Y-fitting sized for our 1/8" Hydraulic Connection Package, so it drops straight into a standard flow cell setup — no custom fittings

SEPARATION COLUMNS

Two polypropylene pipes give gas time to rise out of the liquid before it reaches the bottle. Trim to length, or vent both to a safe extraction point.

PP SEPARATION BODY

A chemically resistant polypropylene body keeps the two gas streams fully isolated, right up to their own separate vents.

Y-FITTING

A PEEK Y-fitting merges the degassed liquid back into your existing 1/8" tubing setup.

TUNABLE FLOW

Ships with both 1.6 mm and 2.2 mm ID PTFE tubing — swap between them as needed.





ACCESSORIES





REDOX FLOW

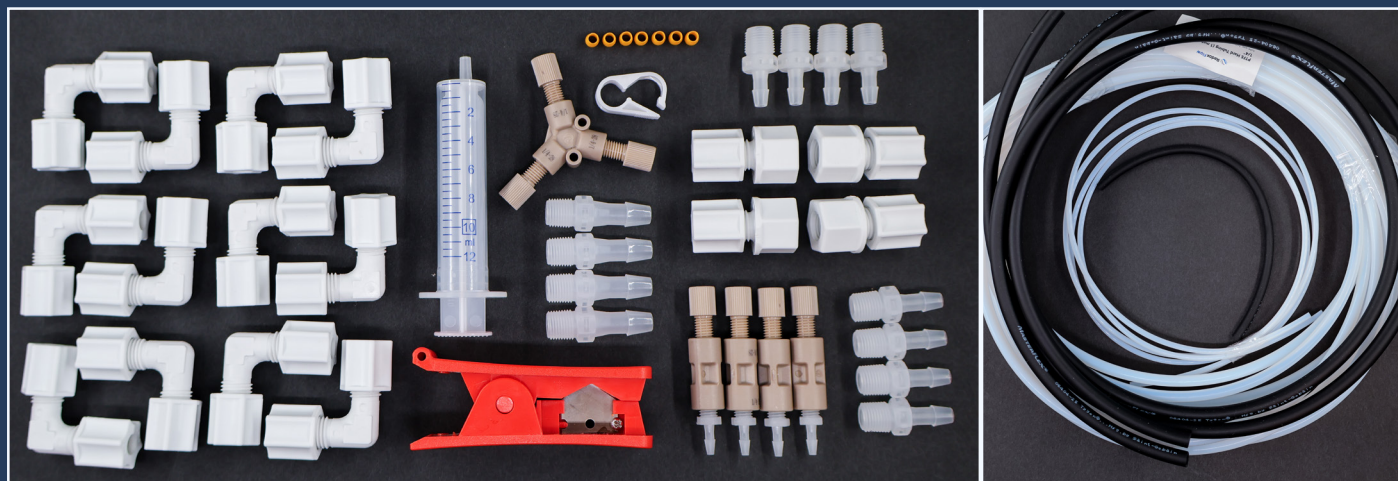
Hydraulics



Hydraulic Connection Packs

Complete, High-Quality Connection Kits

Everything you need to plumb a complete flow battery or electrolysis setup — fittings, tubing, bottle lids, and a reservoir, sized to your system. Choose 1/8" tubing for standard single-cell setups, or step up to 1/4" for higher flow rates and stacked-cell configurations.



COMPLETE OUT-OF-THE-BOX KIT

Fittings, tubing, bottle lids, a tube cutter, and a syringe — everything needed to build a leak-free hydraulic circuit from scratch

LEAK-FREE COMPRESSION FITTINGS

Nut-and-ferrule compression fittings and PEEK unions give reliable, chemically resistant seals throughout.

FLEXIBLE CONTAINER OPTIONS

Choose Pyrex glass (150 mL) or polypropylene (250–1,000 mL) bottles for standard setups, a six-vial kit (20–60 mL) for small-volume testing like the M-Cell, or step up to temperature-controlled multiport reservoirs (250–1,000 mL, 9 ports each) for demanding, complex flow arrangements.

TWO TUBING SIZES

Available in 1/8" for standard setups or 1/4" for higher flow rates and stacked-cell configurations.

Container Options FOR HYDRAULIC CONNECTION PACKS

Vial Kit

Six glass vials (two each of 20, 30, and 60 mL) with N24 screw caps and septums — sized for small-volume testing, such as the M-Cell, where every mL of electrolyte counts.



60 mL

30 mL

20 mL

Bottles (Pyrex/Glass)

Pyrex glass (150 mL) or polypropylene (250–1,000 mL) — the standard choice for most electrolytes. Polypropylene is recommended for strong alkaline solutions at elevated temperature, where glass can slowly corrode.



1000 mL

500 mL

250 mL

150 mL

Multiport Reservoirs

Two temperature-controlled PP/PTFE reservoirs (250–1,000 mL) with 9 ports each for complex flow arrangements, gas purging, and sensor integration — the step up from a simple bottle for demanding setups.



1000 mL

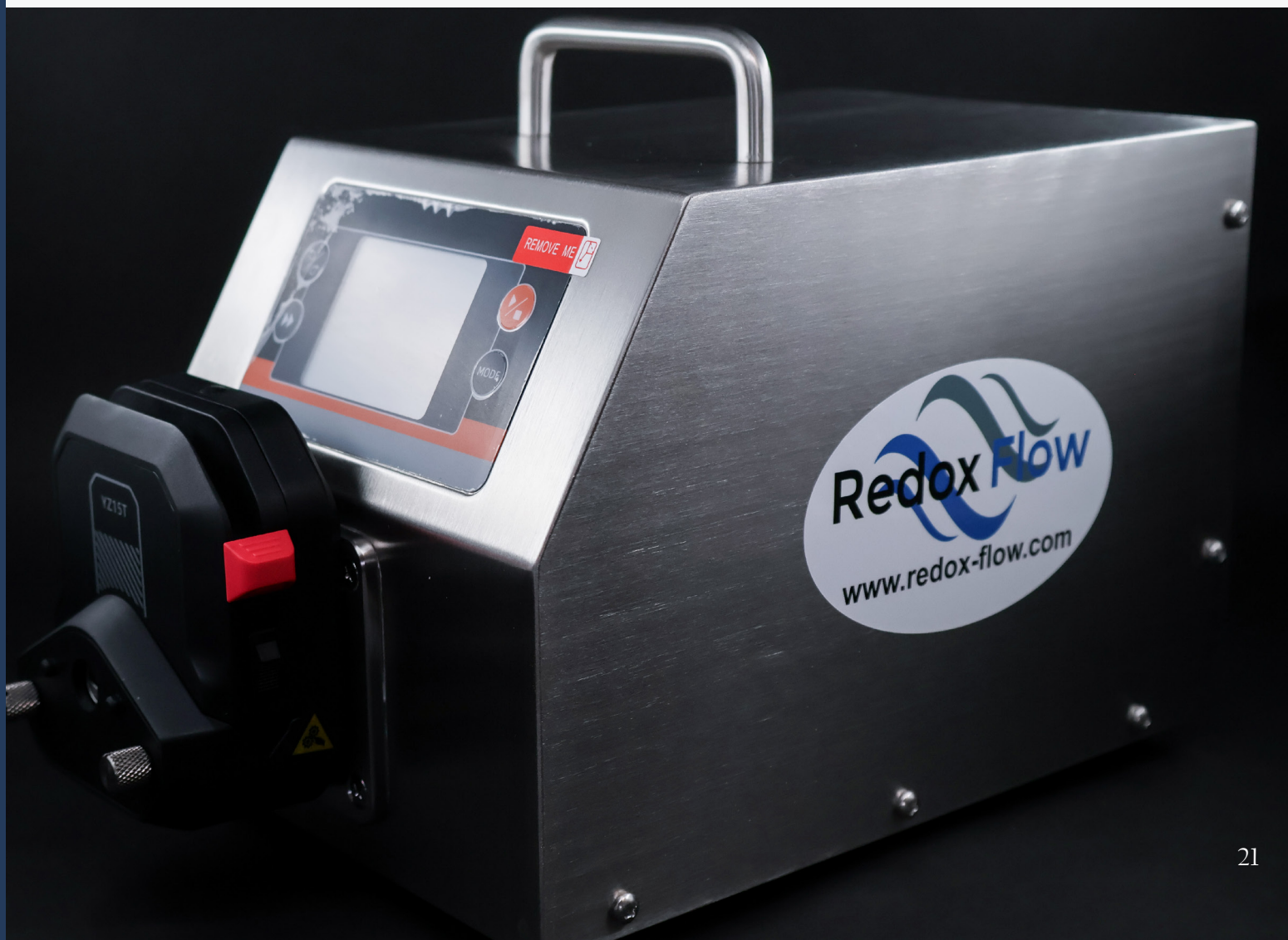
500 mL

250 mL



Pumps

Peristaltic and gear pumps covering 0.005 mL/min to 2,700 mL/min, at up to 120°C and 14 bar.

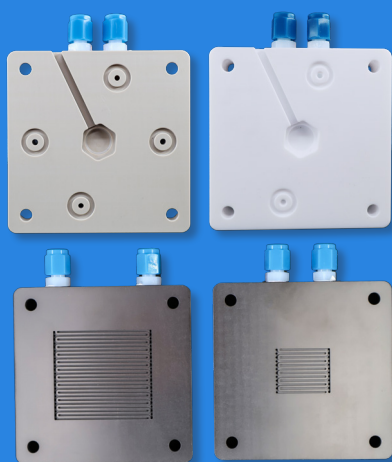


REDOX FLOW

Cell Parts & Custom Solutions

Cell Parts

Every component is fully customizable to suit your preference for materials, flow field areas, sizes, etc. All of our cells are designed for compatibility with custom solutions and are fully interchangeable - allowing you to use parts from one cell in another.



Flow Bodies

Material in PEEK, graphite, or PTFE.

Surface with or without additional ports or flow fields.

Custom materials and dimensions on request.

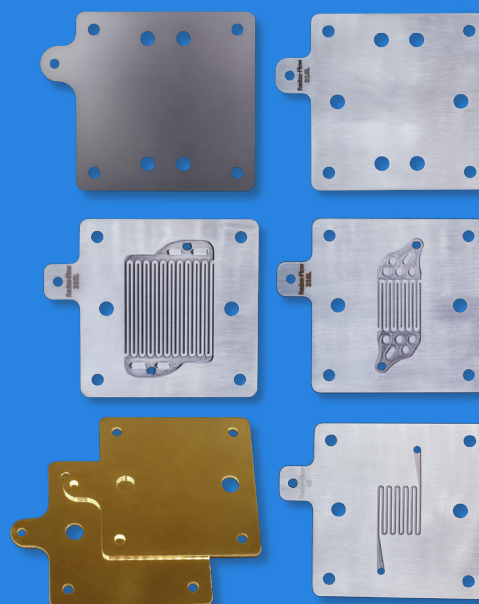
Bipolar Plates & Current Collectors

Material in nickel, stainless steel (316L), titanium, copper, platinum-coated titanium, gold-coated titanium.

Interdigitated, serpentine flow field pattern.

2.5 x 2.5 cm, 5 x 5 cm, or no flow field.

Custom materials and dimensions on request.



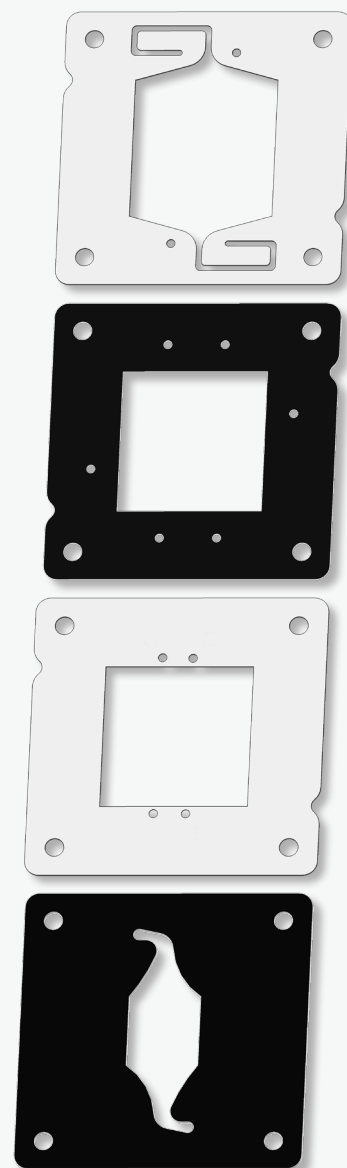
Custom Gaskets

Cover gaskets

Porous separator sealing gaskets

Flow field gaskets

Custom materials, gasket sizes,
thicknesses, areas, and cuts.



Standard options

Material: VITON, EPDM, PTFE

Flow field area: 2.5 x 2.5 cm, 5 x 5 cm

Thickness: 0.05 mm, 0.1 mm, 0.25 mm, 0.5 mm, 1 mm, 1.5 mm, 2 mm

Custom Solutions

Tailored needs? We got you.

Electrochemical research is constantly evolving — and so are we. Whether you want to test a new material, explore a novel geometry, or build something entirely from scratch, we're here to help. Serpentine flow fields, BMED cell designs, custom gasket shapes — these are just a few of the projects we've taken on over the years. From small design tweaks to full custom builds, we've got you covered.

Advanced electrolyte circulation & crossover studies

APPLICATIONS

Adaptation of your unique electrochemical system

APPLICATIONS

Incorporation of advanced inline measurements

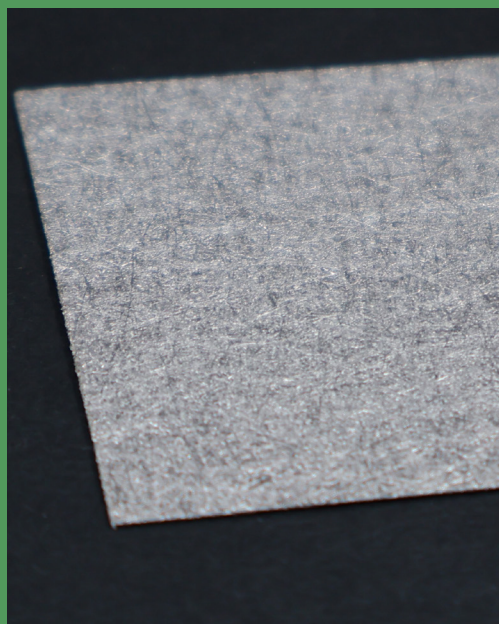
APPLICATIONS

Scaling strategies for flow batteries or electrolyzers

APPLICATIONS

Consumables

Electrodes



CARBON AND GRAPHITE

AVCarb Graphite felt: G280, G475

AVCarb Carbon paper: MGL370, MGL1500, MGL2000, MGL2400

SGL Carbon Felt: SIGRACELL® GFD-2.5 EA, SIGRACELL® GFD-4.65 EA, SIGRACELL® KFD-2.5

METAL FELT

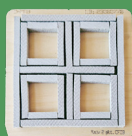
Surface: nickel or titanium

Thickness: 0.2 or 0.4 mm

NICKEL FOAM

Thickness: 0.8, 1.2 or 1.7 mm

PPI: 35, 75, 90, 110, 130, 200



Electrode cutting tools

Type: 5 x 5 cm, 2.5 x 2.5 cm, 2.5 x 2.5 cm with four slots

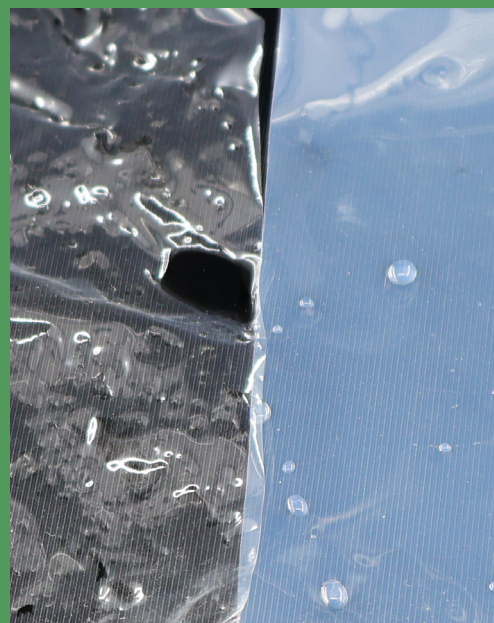
Membranes

CATION EXCHANGE

Fumasep® FS930, F-10150 - PTFE, E-620(K), F-10100, FAA-3-50, FS-990 PK

ANION EXCHANGE

Fumasep® FAP-450, FAPQ-330, FAAM-20, FAAM-PK-75, FAA-3-PK-75, FAA-3-PK-130, FAA-3-50



Membrane cutting tools

Type: for X-Stack, for S-Stack, for 3-compartment cell, 60 x 60 mm, or full size



For full inventory visit redox-flow.com.



ACCESSORIES





WWW.REDOX-FLOW.COM

Any questions?
We're happy to hear from you.



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