

E-PREP | ELECTRODE PREPARATION SYSTEM

Features and Specifications



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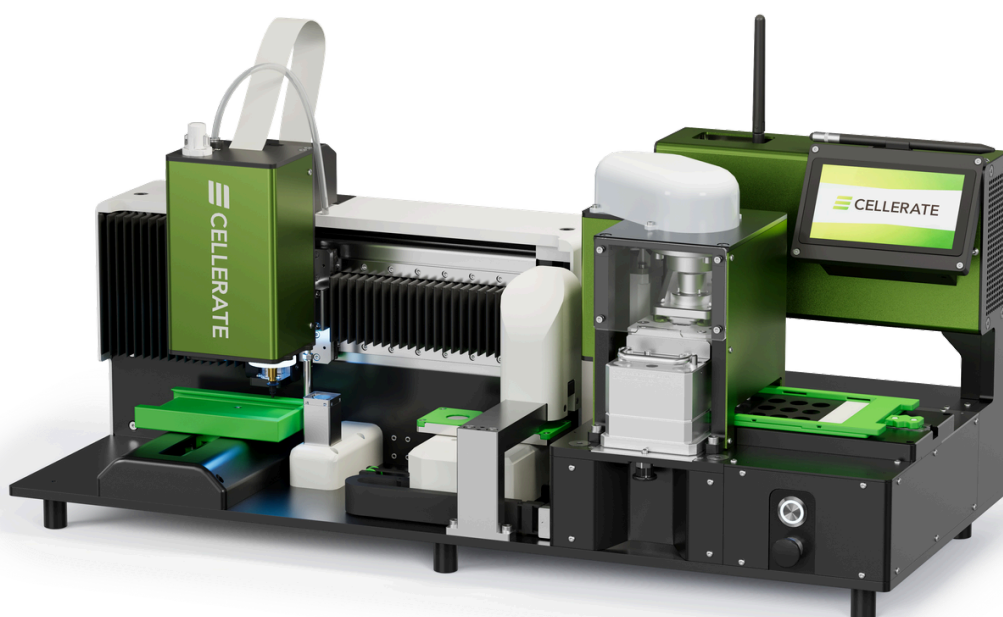
The E-PREP electrode preparation system automates the cutting and characterisation of electrode samples for battery R&D and quality control, helping laboratories to:

- Improve consistency in electrode cutting and sample preparation.
- Reduce manual handling, staff time and operator-dependent variation.
- Generate reliable electrode data alongside every prepared sample.

The E-PREP takes coated electrode sheets and automatically cuts individual samples before measuring key properties such as thickness and mass. Optional resistance measurement can also be integrated, providing composite and interface resistance data as part of the same workflow.

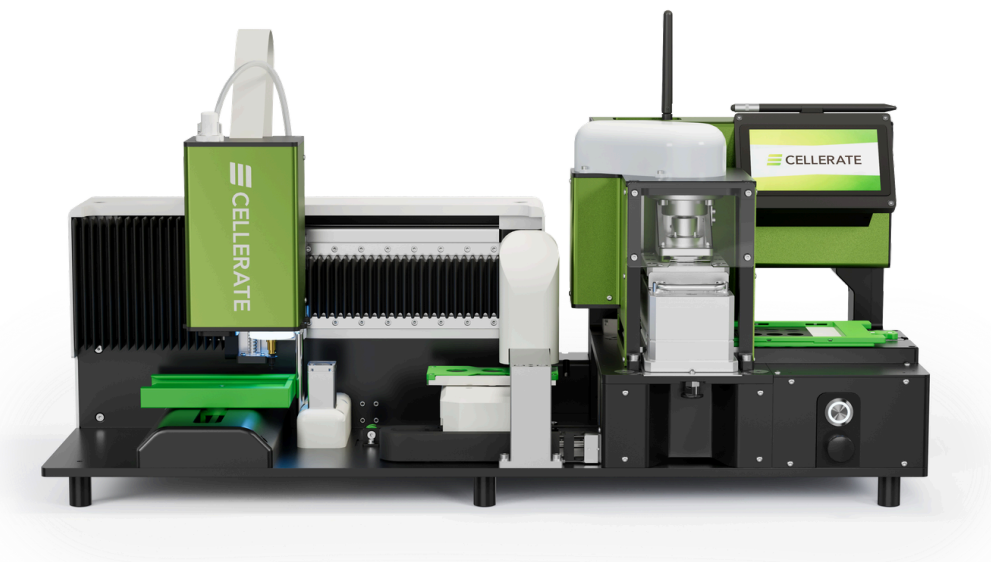
By combining sample preparation and characterisation in a controlled process, the E-PREP helps researchers reduce variability between samples, improve traceability and build more reliable datasets for material development and quality control.

Designed for battery laboratories working with small-format test cells, the E-PREP can operate as a standalone system or alongside the CASS to create a streamlined workflow from coated electrode sheet to assembled test cell.



E-PREP | ELECTRODE PREPARATION SYSTEM

E-PREP automatically cuts and characterises coated electrode sheets



Dimensions	780 x 400 x 320 mm (W x H x D)
Weight	36 kg
Peak Power Draw	60 W
Utility Requirements	Single phase, 100 - 240 VAC, 50/60 Hz, 4.5 A Max.
Operational Temperature Range	5 - 40°C
Operating Environment	Compatible for use in a laboratory, dry room, and in an argon atmosphere
Data Access	Python interface for automated retrieval of system data
Display	5.5 inch capacitive touch AMOLED display
Buttons and Ports	Power switch Emergency stop XLR port Ethernet port 2 x USB 3.0 SD card slot
Network Connectivity	Wi-Fi Ethernet

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Punching

Tool	Interchangeable, EDM-manufactured cutting die
Cut Geometry	Up to 20 mm diameter discs Alternative systems available for larger cells
Radial Contour Tolerance	2 μm
Input Sheet Dimensions	Up to 150 x 100 mm

Thickness Measurement

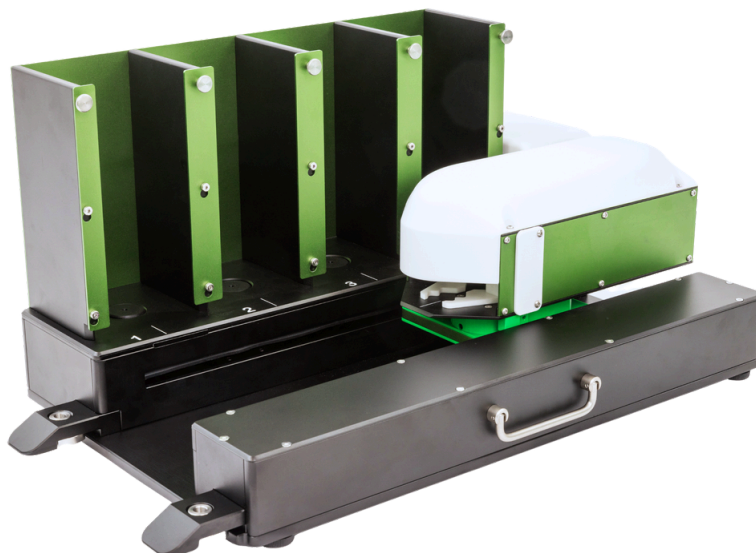
Probe	Micro-Epsilon μE DTD-1G8
Resolution	0.25 μm
Accuracy	$\pm 1 \mu\text{m}$
Repeatability	$\pm 1 \mu\text{m}$

Weighing

Microbalance	Mettler Toledo SPC115-111
Precision	0.01 mg
Accuracy	0.1%
Repeatability	0.5%

E-PREP | AUTOLOADER

The Autoloader module enables 20 sheets to be loaded automatically



Dimensions	510 x 255 x 330 mm (W x H x D)
Weight	10 kg
Peak Power Draw	40 W
Utility Requirements	Single phase, 100 - 240 VAC, 50/60 Hz, 4.5A Max.
Operational Temperature Range	5 - 40°C
Operating Environment	Laboratory, dry room, or argon atmosphere
Tray Storage Capacity	20
Ports	XLR port

E-PREP | INSTALLATION REQUIREMENTS

Install the E-PREP in a clean, dry and level location, away from foot traffic and high vibration zones. Ensure vents and fans are not obstructed.

E-PREP Dimensions:

