

AVL Battery Cell Testing Solutions

To master the heartbeat of the battery. From single channel to automated lab testing.

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Helping our customers developing and validating, safe and enduring battery cells is our ultimate goal. Specifying on the cell as the basis for high-performing e-mobility applications, drives us to provide a holistic testing equipment portfolio.”

Dr. Reinhold Hetzel

Global Business Unit Manager Battery Testing Solutions



THE CHALLENGE

In the race for decarbonization, the battery cell is a major part of this progress. Its importance cannot be emphasized enough – It is the base layer that defines cost efficiency and drives performance.

At AVL, we comprehend the pivotal role battery cells play in shaping the future of sustainable energy solutions. That’s why we’re thrilled to present AVL Cell Testing Solutions, engineered to advance the decarbonization challenge across automotive and industrial sectors.

The AVL Solution seamlessly integrate with the dynamic needs of diverse industries, offering unparalleled insights into battery cell performance without compromise. With a focus on performance optimization, our solution empowers your battery

technology to meet the demands of tomorrow’s fast-paced world. From enhancing fast charging capabilities to reducing the time needed for life-cycle testing cells, and ensuring safety and environmental testing, we ensure that every aspect of your testing needs is designed to fit your requirements.

Join us at the forefront of the decarbonization movement. Embrace a future where sustainability and innovation converge seamlessly.

Contact us today to discover how our **Battery Cell Testing Solutions** can drive your success, whether you operate in automotive, non-automotive, or beyond. Together, let’s reimagining motion for a greener, safer, better world of mobility.

OUR HOLISTIC SOLUTIONS FOR YOUR APPLICATION

From single channel to automated lab testing, we provide individual products to integrated systems and even complete test facilities. Our equipment carries you throughout the testing process.

Individual Test Products



Complete Test Systems



Turnkey Facility Solutions



Our Cyclers Portfolio to Develop, Test and Validate Enduring Battery Cells



Application-Performance



- 0.01% Measured Value
- High Dynamic
- 1kHz Interface
- Water-cooled devices
- EIS and Ripple Emulation optional

AVL CELL TESTER™ Performance

300A

400A

500A

600A

Up to 2400A through parallelization

Application- Durability



- 0.02% Full Scale
- Standard Dynamic
- 100Hz Interface
- Air-cooled devices

AVL CELL TESTER™ ECO

12A

50A

100A

300A

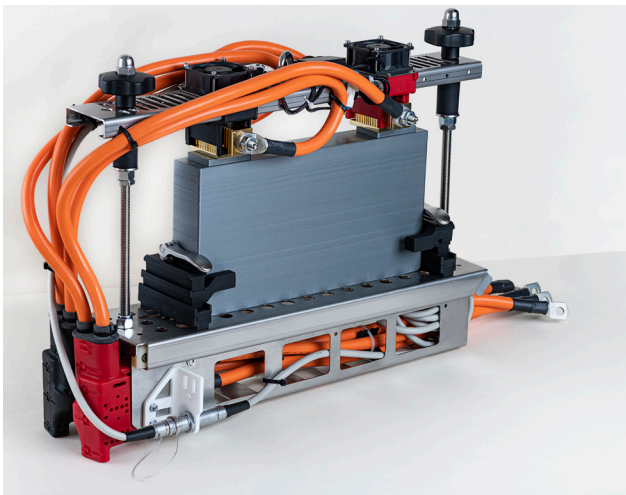
600A

Up to 1200A through parallelization

AVL Battery Cell TS™

Revealing the potential of your cells

Our modular and space-saving test system solutions offer highest flexibility for your future cell test requirements from a single source. From hardware to complete test bed automation, assembled and pre-commissioned at AVL headquarters.



Battery Cell System	
Cell Cycler	<div>The AVL CELL TESTER™ Performance Line cyclers cover current ranges from 300A or 600A per channel ECO Line cyclers cover 100A, 300A, 600A</div> <ul style="list-style-type: none">• Best-in-class efficiency through bi-directional operation: Minimal conversion losses for optimal energy usage• 1kHz Interface: Ensures high-speed communication and precision control
Climatic Chambers	<ul style="list-style-type: none">• Equipped with overpressure flap and door locking• All kinds of climate conditions such as temperature and humidity
Safety System	<ul style="list-style-type: none">• Tailored to the expected risk level of the customer cell, leveraging insights from our comprehensive cell analysis database• Built with flexibility, the safety system can be upgraded later to accommodate future project requirements
Cell Fixture Shelf	<ul style="list-style-type: none">• Designed for a variety of battery cell formats sizes and tab design, such as prismatic, pouch, cylindrical• Provides space for up to 12 battery cell channels
Testbed Automation & Software	<ul style="list-style-type: none">• Enables complete software enables complete DVP testing as well as specific test routines• Easy-to-use web interface with line-based programming
Support Frame	<ul style="list-style-type: none">• Complete system setup on support frame frame• Easily movable and adaptable to meet future testlab extension plans• Ready to use due to short commissioning time

AVL Battery Cell TS™





TESTING SAFETY AND ENVIRONMENTAL CONDITIONS OF BATTERIES

Ensuring battery safety and performance under various conditions is a critical component of our battery testing solutions. We focus on two key pillars: Safety Testing and Environmental Testing.

Safety Testing ensures that batteries remain safe even in extreme situations, outside their normal operational window. This is crucial for preventing potential hazards, such as thermal runaway, under unforeseen circumstances.

Environmental Testing assesses how batteries perform in varying environmental conditions, ensuring reliability under real-world operating scenarios.

We provide tailored solutions ranging from consulting services to advanced test equipment (Safety Chamber, Shaker), all designed to meet specific customer application requirements and regional safety standards. Our holistic approach integrates all necessary subsystems into a seamless, fully functional test environment.

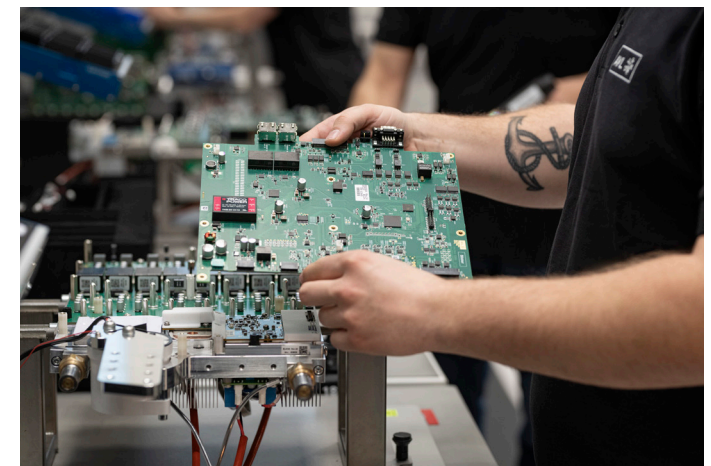


WHY AVL IS YOUR RIGHT PARTNER?

- Global presence
- 5,700 e-mobility experts
- Local tech centers
- 24/7 service
- 75 years and beyond market experience

Contact us today and get in touch with our experts to find the solution for your needs! Collaborate with us for your future success in battery cell development and validation!

With AVL's global expertise and commitment to innovation, we deliver turnkey solutions that ensure efficient lab setups, streamlined operations, and safety-compliant battery testing—helping you achieve faster, more reliable results.





Reimagining Motion

For a greener, safer, better world of mobility.

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