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**BOSCH**

# Test equipment for HV batteries

Charge and discharge high-voltage battery modules,  
balance cell voltages, and check for leaks



# HV test equipment

## Overview

The number of hybrid and battery-electric vehicles coming into the workshops for maintenance or repair is continuously increasing. To utilize this service potential, Bosch offers a range of specialized test equipment for diagnosis and repair of high-voltage battery modules.

### Demand-oriented Bosch test equipment

The user-friendly battery tightness tester BTD 101 tests the low- and high-pressure leakage of a wide variety of modules, such as battery packs, liquid cooling plates, and motor-driven enclosures. The battery charger/discharger BAL 2260 diagnoses the state of charge (SOC) of high-voltage batteries, charging or discharging them, and improving maintenance efficiency. The modern battery cell balancer BCB 5524 balances the voltage of high-voltage battery cells, improving their performance.

### Technical support

When servicing and repairing electric vehicles, even experienced technicians sometimes encounter problems that are difficult to solve.

Highly qualified experts of the technical hotline support team, with their excellent technical workshop expertise, ensure quick problem resolution and simplify everyday work.

### Strong partner of the workshops

Bosch stands by workshops as a strong partner – with the goal of satisfying their customers' needs and increasing profitability. Bosch offers a wide range of services for the workshop business. This includes high-quality products, reliable services, and efficient diagnostic equipment.



# Battery charger/discharger BAL 2260

## Product details

The Bosch BAL 2260 charger/discharger diagnoses the state of charge (SOC) at module level and balances it individually. It is primarily used for the rapid charging and discharging of offline battery pack modules in electric vehicles, enhancing the maintenance efficiency.



### Advantages at a glance

- **Fast status check** of cell and wire connection through immediate voltage detection
- **Reduction of maintenance time** thanks to rapid charging and discharging with high voltage
- **Comprehensive monitoring** through real-time control of voltage, current and temperature for battery health and wiring integrity
- **Quick initialization** thanks to pre-installed software and guided start-up
- **Immediate power cut-off** via emergency stop button to protect both users and equipment in critical situations

Technical data	
Power input	AC 90–264 V/40–60 Hz 16 A
Display	10" LCD touchscreen
Embedded storage	32 GB
Dis/charging power	Max. 7 kW/3.5 kW
Dis/charge voltage	DC 2–260 V
Dis/charge current	0–60 A
Single battery cell voltage collect channel	24 channels
Current battery support	LFP, NCM, LTO, LMO, NiMH
Current control accuracy	±0.5% FS
Voltage control accuracy	±0.1% FS
Weight	Approx. 27 kg

# Battery cell balancer BCB 5524

## Product details

The modern Bosch BCB 5524 precisely balances the voltage of HV battery cells. In this way it improves the performance and extends the service life of battery packs in electric vehicles.



### Advantages at a glance

- **Fast status check** of cell and wire connection through immediate voltage detection
- **Precise and efficient voltage balancing** through independent management of each cell's balance
- **High performance and early identification of operational failures** by continuous control of battery voltage, current and temperature
- **Quick initialization** thanks to pre-installed software and guided start-up
- **Immediate power cut-off** via emergency stop button to protect both users and equipment in critical situations

Technical data	
Power input	AC 90–264 V/40–60 Hz 10 A
Display	10" LCD touchscreen
Embedded storage	32 GB
Dis/charging power	Max. 600 W
Dis/charge voltage	DC 1–5 V
Dis/charge current	0.1–5 A
Discharging/charging mode	CC-CV
Current control accuracy	±50 mA
Voltage control accuracy	±5 mV
Weight	17 kg

# Battery tightness tester BTD 101

## Product details

The user-friendly low- and high-pressure tightness tester BTD 101 for a wide range of modules such as battery packs, liquid cooling plates, and motor driven boxes operates with automatic pressure regulation and comprehensive data management.



### Advantages at a glance

- **Quick and secure test head attachment** prevents device damage caused by accidental disconnections
- **Precise pressure adjustments for reliable and consistent test results** thanks to automatic pressure regulation by servo motor control
- **Suitable for various components** like battery packs and motor drive boxes by supporting low- and high-pressure tests
- **Quick initialization** thanks to pre-installed software and guided start-up
- **Convenient online updates** and no need for a PC through automatic checks and software updates via WiFi
- **Comprehensive logging and reporting** with support of troubleshooting and customer documentation by operational data logs and detailed test reports



# Battery tightness tester BTD 101

## Technology

The BTD 101 tightness tester is an essential tool for workshops involved in maintaining or optimizing battery packs of electric vehicles:



- 1 Air outlet
- 2 Air intake (for 0.4 – 0.8 MPa gas source)
- 3 USB port (for memory stick,
- 4 WiFi stick or barcode scanner)
- 5 Alternative port (Micro USB)
- 6 Power adapter 24 V/DC

- **Enhanced diagnostic accuracy:** The BTD 101 provides precise and reliable airtightness testing for critical components like battery packs and cooling systems, helping to detect even the smallest leaks. The high level of accuracy ensures thorough and effective repairs boosting the safety and performance of the serviced vehicles.
- **Improving efficiency and productivity:** Automatic pressure regulation and user-friendly interface streamline the testing process. The BTD 101 quickly adjusts to the required pressure settings and performs tests with minimal manual intervention, allowing technicians to focus on other tasks and save time.
- **Up-to-date with technology:** The online update capability via a USB-WIFI stick ensures the equipment to always run the latest software
- **Comprehensive data management:** Easy storage, management, and export of test results with the BTD 101's robust data handling features.
- **Future-proof operations:** As the automotive industry evolves towards more advanced and eco-friendly technologies, having the BTD 101 equips the workshop to handle the latest in electric vehicles.

Technical data	
Pressure range	■ High pressure range: 10–500 kPa ■ Detection accuracy: 0.05 % FS ■ Low pressure range: 0–10 kPa ■ Detection accuracy: 0.05 % FS
Automatic pressure regulation range	0–500 kPa
Range of testing time	0–9999 s
Detection standard display resolution	0.1 Pa
Display	10" LCD touchscreen
Operating system	Android 4.4.2
Processor	ARM Cortex-A9 Tetranuclear S5P 4418 1.4 GHz
Random access memory	1 GB DDR3
Hard disk space	16 GB EMMC
Language	English
Ingress protection standard	IP41
Certification information	CE, RoHS
Power adapter	AC 110–240 V, 50–60 Hz
Operating temperature range	0–50 °C
Humidity requirements for operation	10–90 % (+25 °C)
Air pressure requirements for operation environment	80–108 kPa
Dimensions (L x W x H)	413 x 238 x 253 mm
Weight	5.3 kg

# HV test equipment

## Accessories and trainings



The BAL 2260 HV charger/discharger comes with a range of accessories (excerpt): power cords, charging/discharging cables, voltage and temperature measuring box and cables, USB memory stick, WLAN adapter.



The BCB 5524 HV cell balancer comes with a range of accessories (excerpt): power cords, voltage and temperature measuring cables, USB memory stick.

## Bosch – know-how, test equipment and service training from a single source



### Bosch workshop support on high-voltage systems

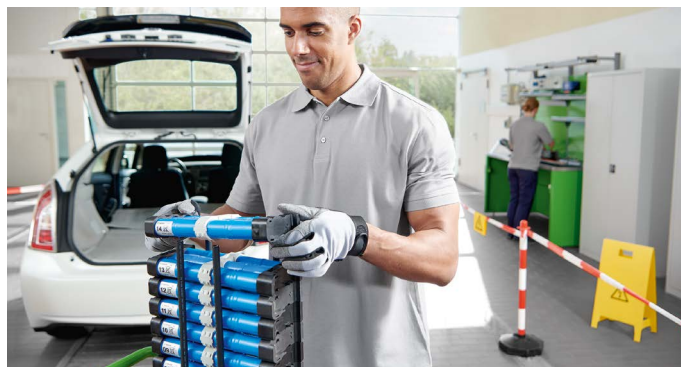
As a developer of innovative solutions and supplier of hybrid and electric drive technology for original equipment, Bosch is shaping technological change in the vehicle and workshop market. Bosch offers extensive workshop equipment and technical support in the aftermarket.

#### Fit for high-voltage with Bosch service trainings

For jobs on electric and hybrid vehicles, such as high-voltage battery repairs, extensive knowledge of complex high-voltage technology is necessary. Bosch therefore offers a range of service trainings and legally required qualification measures for workshops.

#### High voltage repair kit

In case the HV battery is defective or aged, replacement is not the only possible solution. For Toyota Prius III, Yaris or Lexus CT 200h with aged HV modules, Bosch offers a repair-kit with new long-life Bosch nickel metal hydride modules – cost effective and saving valuable resources.



#### Service information:

The BCB 5524 battery cell balancer, the BAL 2260 battery charger/discharger and the BTD 101 battery tightness tester may only be used with the appropriate HV qualification. Bosch offers specified trainings.



Find out more about Bosch service trainings by scanning the QR code!

# What drives you, drives us

Bosch technologies are used in most vehicles worldwide.  
People, and assuring their mobility, is what we are focused on.

Therefore, we have dedicated over 130 years of pioneering spirit  
and expertise in research and manufacturing to achieving this.

We provide the aftermarket and workshops worldwide with modern diagnostic and workshop  
equipment and a wide range of spare parts for passenger cars and commercial vehicles:

- solutions for efficient vehicle repairs
- innovative workshop equipment and software
- one of the world's most comprehensive ranges of new and exchange parts
- large network of wholesale customers, for quick and reliable parts supply
- competent hotline support
- comprehensive educational and training offers
- targeted sales and marketing support

**Find out more at:**  
[boschaftermarket.com](https://boschaftermarket.com)

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