Lithium-Ion Batteries Production Equipment
For battery cells and complete battery systems
Production solutions for lithium-ion batteries

THE STORAGE OF ENERGY IS A HOT TOPIC FOR THE FUTURE. EFFICIENT STORAGE IS PART OF SUCCESSFULLY IMPLEMENTING ENERGY TRANSITION AND FOR EMISSIONS-FREE MOBILITY. IN THE AREA OF CONSUMER ELECTRONICS, THE QUALITY OF THE BATTERIES INSTALLED ALSO PLAYS AN IMPORTANT ROLE.

Manz AG is one of the leading suppliers of production equipment for lithium-ion battery cells, modules and packs, as well as for capacitors. We have been setting global standards in this field for 30 years.

With our globally unique technology portfolio for the production of all current cell concepts — from wound button cells to stacked pouch cells — we play a major role in the continued development of lithium-ion battery technology.

We offer our customers individual machines for lab and pilot production, systems for small-scale and large-scale production as well as complete assembly lines and turnkey solutions for manufacturing batteries. All system concepts are distinguished by their high production speed, high precision and reliability.

Our product portfolio covers the following markets:

- Production solutions for lithium-ion batteries and (super) capacitors in the field of E-mobility
- Production solutions for lithium-ion batteries and capacitors in the field of stationary energy storage for private households and photovoltaic large systems
- Production solutions for lithium-ion batteries in the field of electronic end units such as tablet PCs, mobile phones and Notebooks

Our performance spectrum spans from battery cell production (cell assembly) to the assembly of individual battery cells in a battery system (pack assembly).

We accompany you from the initial idea to the final production process and are at your side during planning, projecting, construction and installation of your production line. In addition, we support you with our comprehensive know-how through the setup and commissioning of the system, with user training, remote maintenance and after-sales service.

Manz AG

Established 1987
Headquarters in Reutlingen, Germany.
Additional branches in Slovakia, Hungary, Italy, China, Taiwan, the United States, and India.

Employees

Approx. 1,700 employees worldwide, of which approx. 500 are engineers

Core technologies

Automation
Metrology
Laser processing
Wet chemistry
Roll-to-roll

GERMAN ENGINEERING – INTERNATIONALLY STAGED – GLOBAL REFERENCES
PRODUCTION SOLUTIONS FOR LITHIUM-ION BATTERIES

Manz offers individual machines as well as integrated production lines as standard or individual solutions:

- For different cell shapes, such as cylindrical cells, hard case cells and pouch cells
- For wound cells or stacked cells
- For different applications such as portable devices, cell phones, BEV (battery-electric vehicles) for different applications, PHEV (plug-in hybrid electric vehicles) or HEV (hybrid electric fuel vehicles) and stationary storage systems

Our machines are known for high production speed and a wide range of battery sizes to be produced. Precision, reliability, durability, availability and low overall operating costs (TCO) are the main features of our high-tech production systems. The individual system or production line can be adapted uniquely upon request using our modular machine design.

Due to the efficient production processes for manufacturing stacked or wound battery cells, Manz achieves increasingly precise as well as sturdy cell structures. The effects on the battery’s performance parameters are correspondingly positive. In addition to high process precision, our modern automation systems for increasing throughput have also significantly reduced production costs.

Manz has vast know-how that we gladly use to support you in the development or optimization of a suitable and stable-running process. Setup and commissioning of the system, user training, remote service and after-sales service – you have the whole spectrum of performance in one place with us.

Integrated inspection systems
With a suitable measuring and inspection system, you can monitor the ongoing production process, always retain control and adjust your process parameters even during production. The built-in inspection systems ensure high product safety.

Project support
We accompany you from the initial idea to the final production process and are at your side during planning, projecting, construction and installation of your production line.

Production equipment for lithium-ion battery cells

AS A HIGH-TECH MACHINE BUILDER, MANZ DEVELOPS AND PRODUCES HIGH-EFFICIENCY PRODUCTION SYSTEMS FOR THE PRODUCTION OF LITHIUM-ION BATTERY CELLS.
Production equipment for lithium-ion battery systems

PRODUCTION PROCESS Li-ION MODULES & PACKS

CELL PREPARING
Removing the cells from the packaging and testing the cells

TERMINAL CUTTING/BENDING
Preparing contact pin

MODULE ASSEMBLY
Assembling and securing cells in the module

MODULE CONTACTING
Welding the cells using contact plates

PACK ASSEMBLY
Assembling and securing the modules in the battery packs

ELECTRICAL ASSEMBLY
Electrical switching of the modules

FINAL ASSEMBLY
Mechanical final assembly of the battery pack

CHARGING
Charging the battery pack

TESTING/EOL
End-of-line test, electrical function test

Manz has a production solution for all processes that require the assembly of lithium-ion battery cells – adapted to your needs:

- From individual machines for labs, for pilot and small-scale production, to complete assembly lines or turnkey systems for mass production.

Manz benefits from its vast know-how in the fields of process control, automation and laser technology when developing and manufacturing high-precision systems for the production of battery cells as well as their processing in complete battery systems.

The production solutions from Manz have significant influence on improving the quality and service life of the batteries while reducing the production costs due to the perfectly synchronized, linked processes.

Our systems are noted for high process stability and low total costs of operation (TCO).

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Process support
Manz has vast know-how that we will gladly use to support you in the development or optimization of a suitable and stable-running process.

Setup and commissioning of the system, user training, remote service and after-sales service – you have the whole spectrum of performance in one place with us.

Production from the Lithium-Ion Cell to the Finished Lithium-Ion Battery System – We Find the Optimal Solution to Support You Along All of Your Production Steps

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Founded in 1987, Manz AG is a global high-tech equipment manufacturing company.

In addition to the CIGSfab turnkey production line in the Solar segment, the company focuses specifically on the automotive industry in the Electronics and Energy Storage segments.

The company, listed on the stock exchange in Germany since 2006, currently develops and manufactures in eight countries with around 1,700 employees.