

RAMPF Bonding & Casting Technology For Groundbreaking Electric Mobility Pro- duction Platform

LightAssembly line from MANZ AG – ultra-fast, cost-efficient manufacturing of cell contact systems for lithium-ion batteries

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Zimmern ob Rottweil, Germany, February 16, 2022. With its groundbreaking LightAssembly platform, MANZ AG ensures the ultra-fast, cost-efficient manufacturing of cell contact systems for battery cells. In two lithium-ion battery assembly lines designed specifically for the automotive industry, dispensing robots from RAMPF Production Systems carry out the fully automated bonding and casting processes.



Maximum flexibility and quality – the modular LightAssembly platform from MANZ AG offers a holistic solution for the automated manufacture of cell contact systems for battery cells. © MANZ AG

Cell contact systems are a fundamental element of electric drivetrains. They connect the individual battery cells to modules and ensure the drivetrain is electrified. In addition, they use integrated sensor technology to carry out important battery management functions, including measuring voltage and temperature.

Based in Reutlingen, Germany, MANZ AG is a market leader in automating complex, high-precision production facilities for microelectronics components, specializing in the automated manufacture of cell contact systems at an early stage. The company's pioneering modular LightAssembly platform combines

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all the necessary technologies such as assembly, bonding, and soldering, and even functional tests so as to meet the market's high requirements in terms of quality, speed, and cost-efficiency.

DR-CNC dispensing robot for automated bonding and casting processes

MANZ develops product-specific production solutions for cell contact systems that are used with lithium-ion batteries, catering specifically to the needs of the automotive industry. DR-CNC dispensing robots from RAMPF Production Systems were integrated into two of these highly complex assembly lines to carry out fully automated bonding and casting processes.



Specifically designed to be integrated into production lines, the DR-CNC dispensing robot is equipped with cutting-edge control technology that ensures perfect interplay between the dispensing process and motion sequences.

The double-axis system enables continuous production without any interruptions for maintenance and cleaning, while the swiveling work-piece holder operates without media supply. The dispensing processes for the bonding and casting materials are precisely coordinated with the respective curing process, and the quality of the process is constantly monitored via an integrated camera system.

The dispensing robot is equipped with the intuitive RAMPF HMI (human-machine interface) for the dispensing process and controlling the CNC axes. All parameters relevant to the process are mapped in real time and support the proactive maintenance of the systems. Together with the fully redundant design of the dispensing system, this predictive maintenance is a key component of RAMPF's holistic, failsafe service concept for the long-term availability and maximum productivity of the dispensing robots.

Stefan Huber, Director of Project Management at RAMPF Production Systems – “The production solution for lithium-ion batteries developed by MANZ provides the highest production speeds, precision, and quality, and sets new standards for the electric mobility sector. This holistic concept is also in line with our own approach of automating production processes with integrated dispensing technology. The customized solutions we have developed offer a high level of flexibility and can rapidly be integrated into production lines.”

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RAMPF Production Systems GmbH & Co. KG develops and produces mixing and dispensing systems for sealing, casting, and bonding a wide variety of materials. The company also offers a wide range of automation skills relating to all aspects of process engineering.

With its more than 3,000 systems solutions on the market, RAMPF Production Systems, based in Zimmern ob Rottweil, Germany, is one of the world's leading suppliers of innovative systems for processing single, dual, and multi-component reactive resin systems.

In addition to the core competence of mixing and dispensing technology, customers are provided with a broad range of automation and conveyor systems for internal logistics, additional assembly and joining technology, as well as logistic and quality assurance solutions. The customer-specific solutions also include the integration of testing and measuring technology into production facilities to safeguard production processes.

This added value enables RAMPF Production Systems to supply its customers with holistic system solutions for their production facilities.

RAMPF Production Systems is a company of the international **RAMPF Group** based in Grafenberg, Germany.

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