bdtronic

PRODUCT INFORMATION

Dispensing Technology

As a specialist of processing single and multi-component reactive resins, we develop the optimal solution for your process especially in the field of e-mobility, autonomous driving, automotive safety electronics and medical technology. bdtronic can draw on 40 years of experience in the field of dispensing technology for series process development and the construction of dispensing systems.

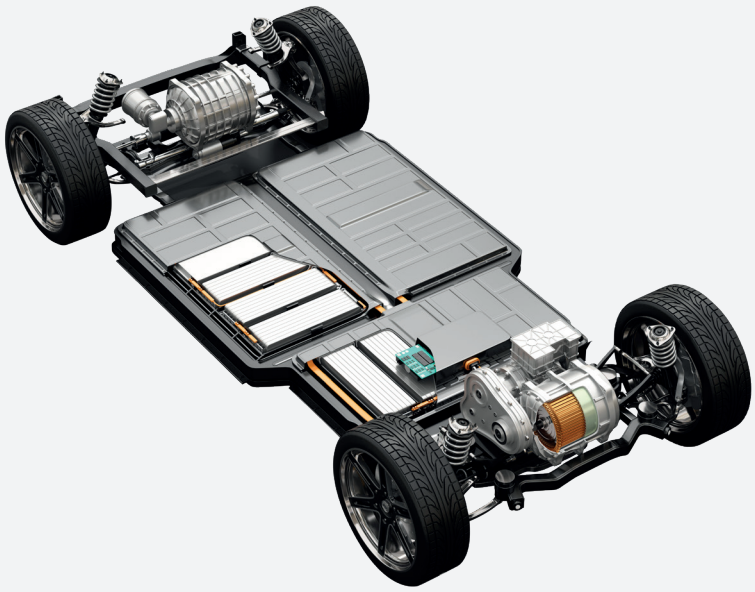
Dispensing applications

From PLC-controlled table-top systems for single-part production to fully automated production lines – no matter if it is a thermal interface material, polyurethane, epoxy resin, silicone, MS polymer, acrylate or methacrylate. We are specialized in processing single- and multi-component reactive resins and ensure that you always get the perfect solution for your application.

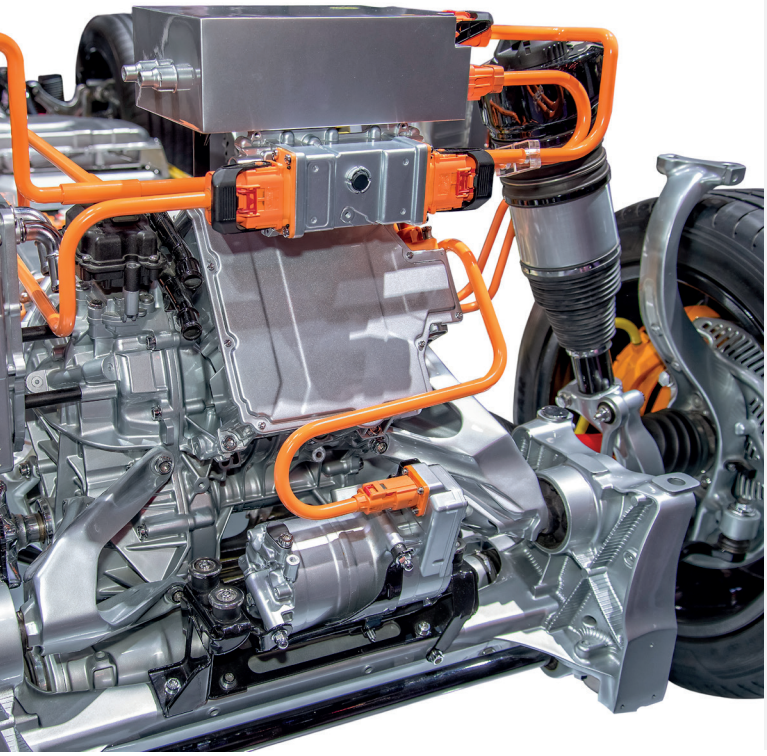
The demands on component quality and safety are increasing in all industry sectors. For each application, process-reliable dispensing technology with the highest possible accuracy and reproducibility is required. In addition, the best possible process result in the shortest possible time is strived for.
Reliable, efficient and high-quality dispensing technologies can significantly improve the safety and service life of parts and components. All our dispensing applications focus on quality, flexibility and efficiency.

E-Mobility solutions

Electromobility is the future of mobility. We offer solutions for dispensing applications for all important components of electric vehicles.



→ Bonding of battery cells
→ Stator busbar potting
→ Rotor magnet bonding
→ Dispensing TIM batteries



Power electronics

In an electric or hybrid vehicle, the power electronics is one of the central components.

- → Onboard chargers (OBCs)
- → DC/DC converters
- → Electronic control units
- → Inverters

Driving assistance systems

Cameras, radar and LiDAR systems and sensors are bonded or encapsulated to protect them from external influences. Maximum precision and accuracy are essential for these applications.

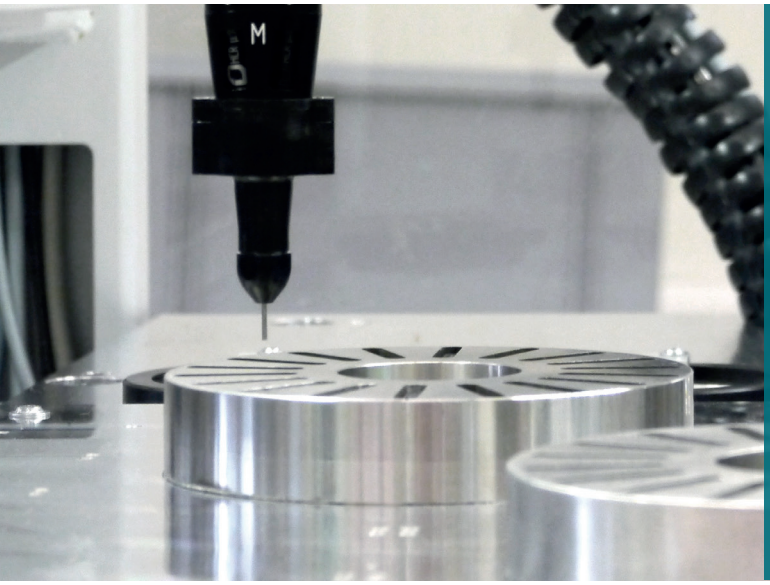
- → Radar and LiDAR sensors
- → Infotainment
- → Cameras
- → Ultrasonic sensors

Dispensing methods

There are different dispensing methods for every requirement: from bonding, gluing, sealing to potting under atmosphere or vacuum.

Bonding

The dispensing process adhesive bonding is used to connect two or more joining partners. Adhesive bonding technology is one of the key technologies for the technological progress in the 21st century.



Characteristics

- Material-to-material bond
- Surface and material remain unchanged
- No effects on mechanics, aerodynamics or aesthetics
- Combination of different materials possible
- Perfectly suited for lightweight construction

Sealing

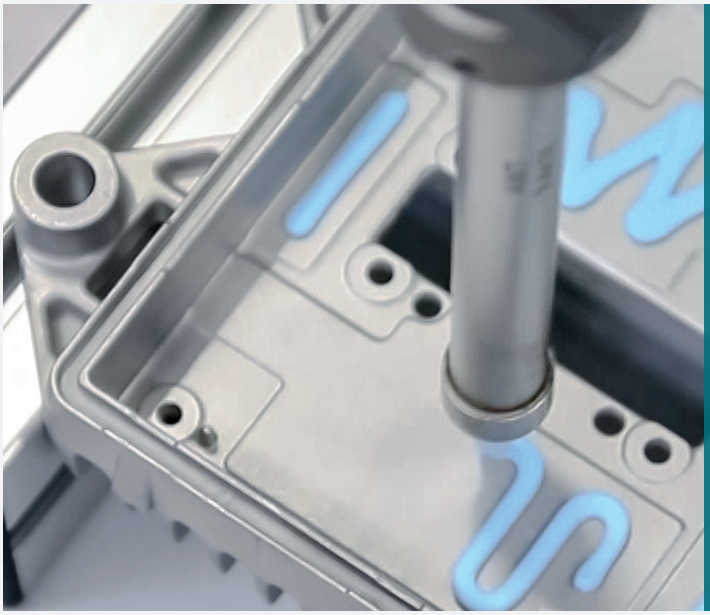
The sealing dispensing process is used to protect components from external influences by means of a barrier. A usually highly viscous and thixotropic sealant is applied to the components following a specified two-dimensional or three-dimensional contour.

Characteristics

- Flexibility in component design
- High precision and repeatability
- CIPG (Cured In Place Gasket) or FIPG (Formed In Place Gasket)
- Sealing of housings and housing covers
- Possibility to join different part materials (metal, plastic, glas, etc.)

Applying thermal interface materials

The application of thermal interface materials is used to dissipate heat in order to protect power electronics from reduced performance or defects caused by overheating.



Characteristics

- Highly viscous and abrasive materials
- Perfect adaption to the individual contour
- Prevent air gaps and increase thermal conductivity
- Avoid material separation thanks to low working pressure
- High-precision eccentric screw pumps

Potting and vacuum potting

Optimal protection for electronic components is provided by the dispensing process of potting under atmosphere or under vacuum.

Components are filled or poured with low-viscosity potting materials such as polyurethanes (PU), epoxy resins, silicones.

Characteristics

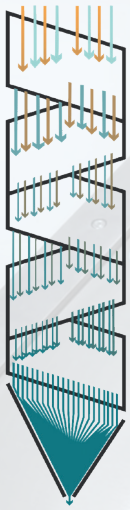
- Encapsulation of electronics
- Potting to protect sensitive components
- Temperature management essential
- Vaccum potting for components with difficult to vent geometries
- Perfect material preparation to avoid air bubbles

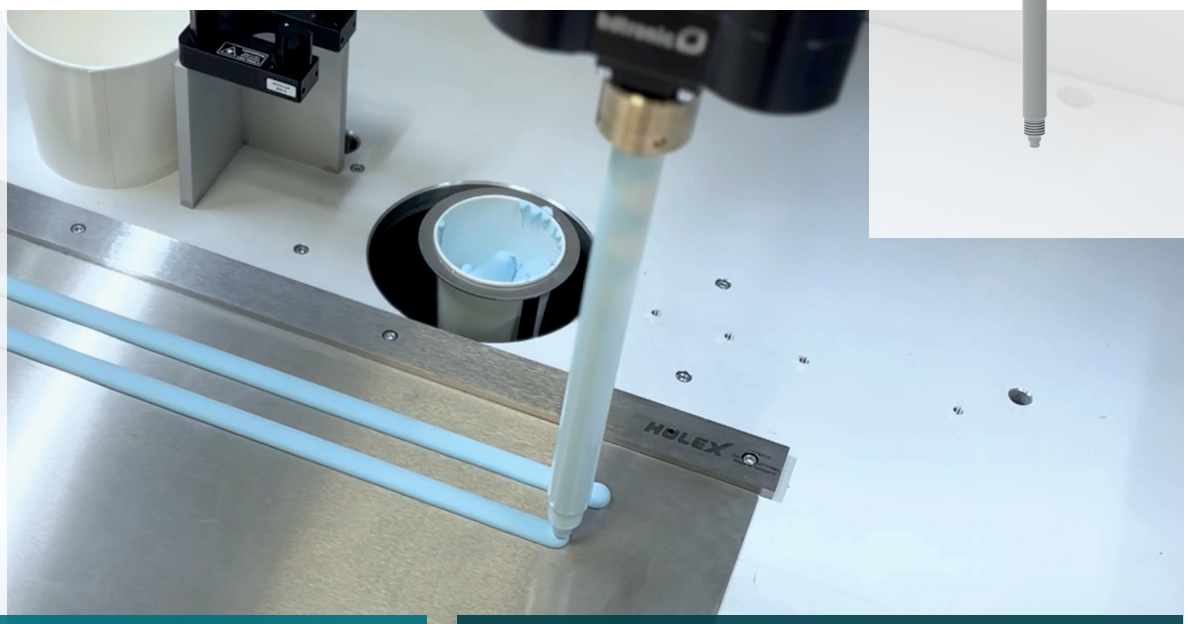
Mixing units

The selection of the mixing system for multi-component reactive casting resins is determined by processing parameters such as viscosity, mixing ratios, pot life and chemical-physical properties. bdtronic can offer the best solution as we have different mixing principles based of eccentric screw pump technology in our portfolio and have dispensing ranges from 0,003 to 7,8 ml/turn.

Static Mixing

This mixing method is suitable for low-viscosity to pasty media with abrasive fillers and a longer pot life. This system is characterized by minimal space and weight requirements. The material streams are mixed in a mixing tube.





Characteristics

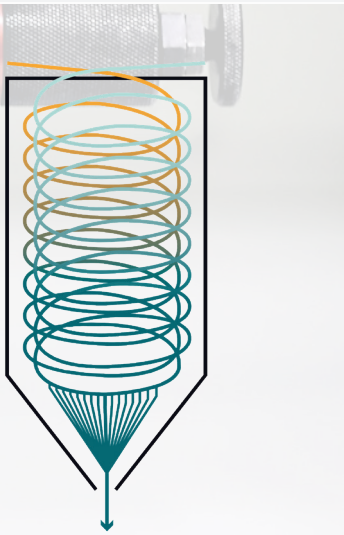
- High mixing quality even with difficult mixing ratios with Duplex+ MULTI-STRING©
- Low viscosity to pasty media
- Filled & unfilled media
- Abrasive & non-abrasive fillers

Advantages

- No cleaning process necessary
- Minimal space and weight requirements

Dynamic Mixing

This mixing process is suitable for low to medium viscosity media. In dynamic mixing, reactive resins with large viscosity differences can be mixed and a mixing ratio of 100:1 is possible. The components are mixed by an agitator with up to 6,000 rpm.



Characteristics

- Very high mixing quality even with the most difficult mixing ratios
- Suitable for materials with short pot life
- Low to medium viscosity media
- Filled & unfilled media
- Abrasive & non-abrasive fillers

Advantages

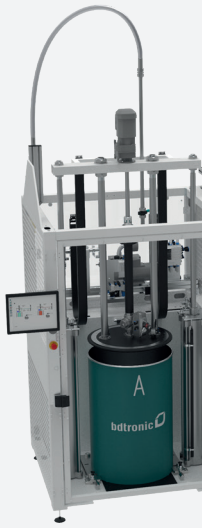
- Large viscosity differences can be mixed
- Low pressure in the material system
- High mixing speeds are possible
- Highest mixing quality
- No disposable mixing tubes required

Dispensing machines

We have the right dispensing system for every application. Our specialists in the Technology Center advise and support you in material selection and process finding. With the knowlage from the Technology Center we built the perfect machine for your process.

The advantages of our machine solutions are the flexible combination of machine, material preparation and dispensing process – perfectly matched to the respective application. For this purpose, standardized modules are used. With our intelligent dispensing system smartCORE we guarantee maximum process control and a high degree of automation of the whole dispensing system. With the optional speedUP function, an optimum result can be achieved in the shortest possible cycle time.

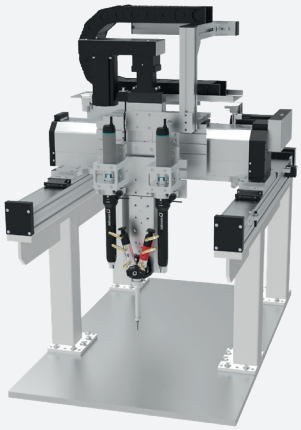
During and after acceptance of your machine solution, we will be at your side with advice and support. With our comprehensive range of Services, we ensure smooth and trouble-free operation of your dispensing machine.



DISPENSING MACHINES

B3000 I B5200
B5600 I B5800

- Manual wokstations
- Semi-auomatic machines with manual loading
- Fully automatic machine with conveyor or rotary table
- Fully automatic vacuum machines with conveyor
- Integrated plasma treatment or ovens for your optimal process



ROBOTIC & INLINE
DISPENSING SYSTEMS

Integration solutions

Hardware integration on robots or axes

Process integration inline

With static or dynamic mixing heads

MATERIAL PREPERATION SYSTEMS

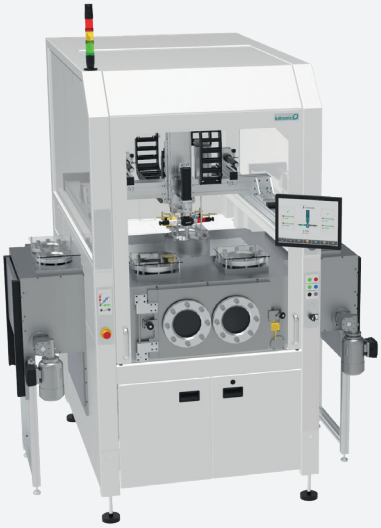
DPS I PPS I MPS

Housing for safety and cleanliness

Professional material preparation
(bubble-free)

Software features for changeover,
handshake and process control

Kit for different kind of resins
(temperature control, vacuum chamber,..)
from cartridges to drums



YOUR PARTNER IN E-MOBILITY

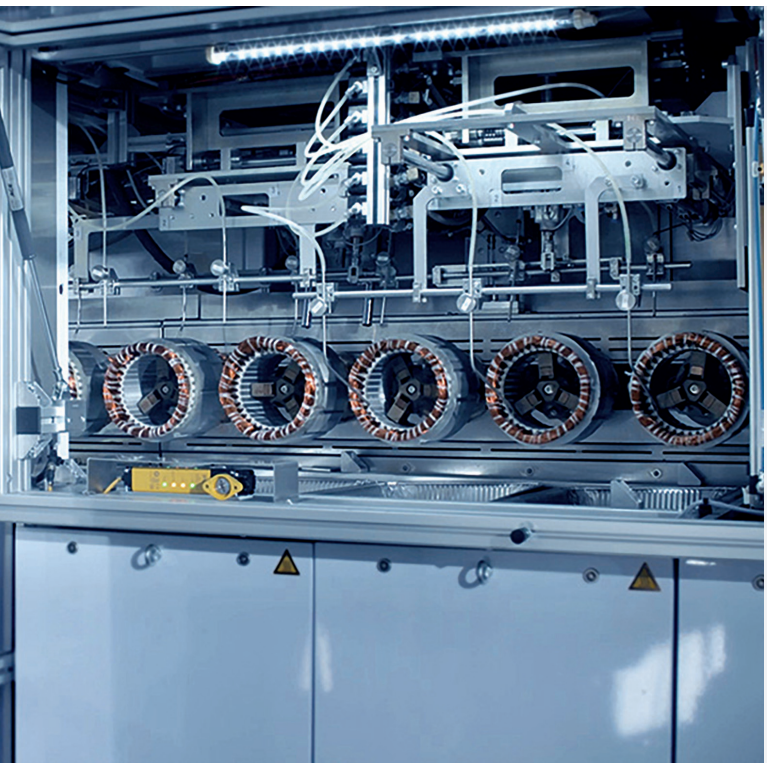
We offer solutions for dispensing, impregnation, heat staking and plasma worldwide. With our broad equipment portfolio, we ensure a clean and safe process for your application.

The expectations and requirements of our customers are at the center of everything we do. We work in a customer-oriented, process-driven, economical and goal-oriented manner to meet your requirements to your satisfaction. We are a complete solution provider and offer personal project support and individual customer care without changing contact persons in the project.

Heat Staking

Heat staking is a proven joining process for plastics and hybrid joints. bdtronic has the right process for every production requirement.

- → Cell contacting systems or junction boxes
- → Battery control units and modules
- → Electric motors



Impregnation

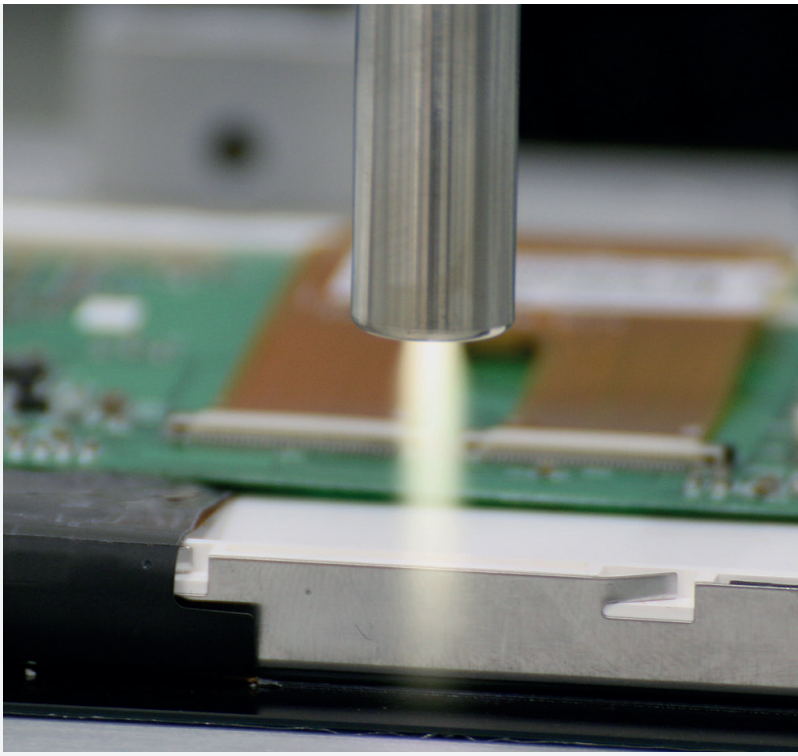
Our long experience as a manufacturer of impregnation and dispensing machines guarantees you the highest process stability and quality for electric motor production.

- → Electric drives
- → Stator windings
- → Stator coating

Plasma

Plasma technology is the ideal pre-treatment for cleaning and activating surfaces before bonding and sealing processes.

- → Cleaning
- → Activating



Dispensing | Impregnation | Plasma | Heat staking

bdtronic

bdtronic GmbH
Ahornweg 4
97990 Weikersheim
Germany

+49 7934 104 - 0
sales@bdtronic.de
www.bdtronic.com

Connect with us