

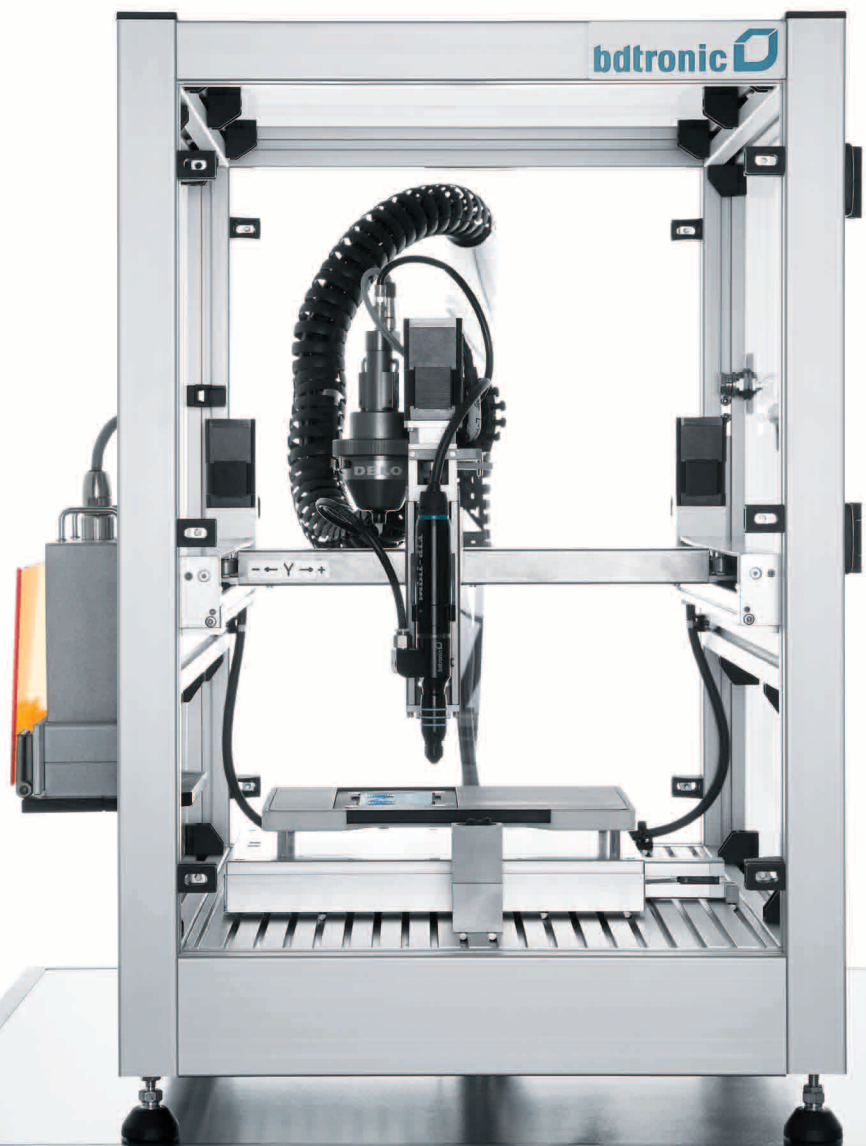
Dispensing casting resin

# Perfect curves

From car parking sensors through to smartphones and electric toothbrushes, sensitive electronic components need protection against undesirable substances. That is why special casting resins are used. The “mini-dis” desktop machine from bdtronic allows high-precision dispensing processes in a very small space – thanks, among other things, to the compact handling system YXMx from Festo.



**C**asting resins protect high-quality electronic components against undesirable penetration by dirt and moisture. Precise and reliable dispensing technology is essential for the automatic application of these resins. bdtronic GmbH, a company located in Weikersheim in Baden-Württemberg, is one of the world's leading suppliers of dispensing systems, including complete systems for automating the assembly and production of electronic components. bdtronic has now worked with Festo on a groundbreaking project to expand its product portfolio. The new mini-dis from bdtronic, based on the compact handling system YXMx, opens up another field of application in the front-end processing of electronic and telecommunications products. The integrated CECC-X controller allows curved travel paths, thus making it possible to produce even complex casting patterns. Designed as a space-saving and flexible desktop application, the new complete solution from Festo facilitates cost-effective production of extremely short production runs.



**Precise and flexible:** the mini-dis desktop application with the compact handling system YXMx can apply even the finest adhesive beads with the interpolating controller CECC-X.

### Precision and reliability

The microdispensers and the mini-dis are used with semiconductor products and circuit boards, with the electronic components of numerous automotive modules and sensors, in medical technology and with smartphones. The mini-dis processes single- or two-component materials with an epoxy, polyamide, silicon or acrylate base and soldering pastes in the  $\mu\text{l}$  range. Across the world, several thousand different casting materials are used.

process is the optimum preparation of the casting resins. These must first be homogenised and then evacuated. This avoids even the smallest air pockets.

### Flexible and compact

An important criterion for bdtronic when selecting handling systems for dispensing is an interpolated actuator control system which allows travel along radii and thus



“With the compact handling systems from Festo, we have a complete unit consisting of kinematics, a controller and software from a single source. This saves us time and money.”

André Hellinger, Head of Development, Dispensing Technology, bdtronic

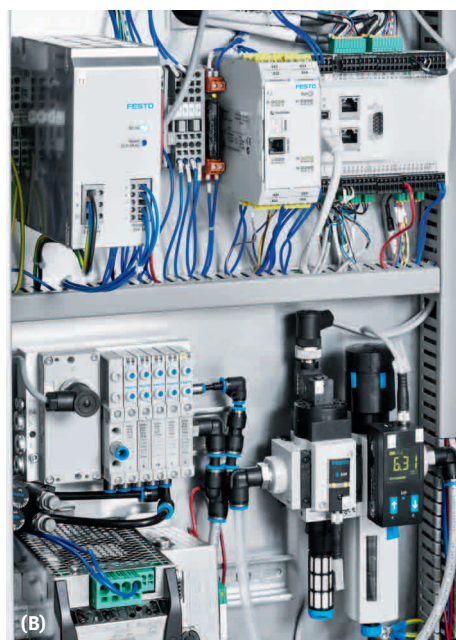
When it comes to the dispensing technology itself, two criteria are especially important: precision and process reliability. To achieve these, bdtronic works extremely closely with its clients' experts. In the company's own application and technical centre, each product is extensively tested to check the interaction between the casting resin, the dispensing technology and the components to be processed. One of the greatest challenges in the dispensing

flexible contours. This is the only way to define precise dispensing points, create intricate patterns and fully encapsulate components of different shapes. The new desktop application with a Festo controller CECC-X with SoftMotion functionality fulfilled this need. A key role was played by the programming language CODESYS, with which the bdtronic software engineers had already been working for many years. Since the CECC-X can be integrated via CODESYS, it could be added to the company's component family in no time at all. A further important criterion is easy reading-in and fast processing of CAD data. →



**(A) On the move:** the compact planar surface gantry provides maximum working space coverage. And it can travel to any required position within the working space.

**(B) Just as compact as the handling system** is the interior of the control cabinet, with a controller CECC-X (top right), a valve terminal VUVG (bottom left) and a service unit from the Festo MS series (bottom right).



## bdtronic GmbH

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Germany  
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Area of business:  
Production of complete solutions in the areas of dispensing technology, plasma pre-treatment, hot sealing, impregnation technology and process automation.

With its compact dimensions, the controller is a perfect match for the planar surface gantry EXCM-30, which offers many functionalities for working loads of up to 3 kg. The gantry provides maximum working space coverage. And it can travel to any required position within the working space.

### Perfectly matched

Festo has designed its compact handling systems as a kit with perfectly-matched standard components. The bdtronic mini-dis uses a planar surface gantry EXCM-30 with additional Z-axis EGSK as a kinematic mechanism including the controller CECC-X. It also includes a comprehensive software package for simple programming and commissioning, which is an integral part of the Festo complete solution. Having

a large number of functions available in a very small space avoids the problems of both under- and over-dimensioning. The controller software, based on CODESYS, offers the most important basic functions that are needed to program travel paths even without an in-depth knowledge of programming. The controller interfaces allow the compact USB cameras, sensors, actuators and valves all to be connected. All of this results in great efficiency and saves considerable amounts of time and money. ■

[www.festo.com/hgo](http://www.festo.com/hgo)

[www.festo.com/cecc](http://www.festo.com/cecc)

## Kinematics, controller and software in one package

Compact handling systems for moving workpieces or tools help machine and system builders in electronics and small parts manufacturing to significantly reduce their engineering costs – and they get a cost-effective system thanks to standard components. Predefined function modules from the software library and intuitive application programming with the sequencer simplify programming and commissioning.

The system kit from Festo consists of perfectly matched components and functions from a single source. These components can be used to simply combine complete systems, consisting of kinematics, controller and even software. Systems of this kind open up entirely new potential for savings. They enable machine and system builders to concentrate fully on their core business.

Programming and commissioning with the predefined function modules of the Handling Motion Lib is quick and easy. The following functions are possible: parameterisation, reference travel and jogging operation for the interfaces for communication with host systems, file management and a message system for error handling and sequence processing.

Included in the system kit is a compact controller CECC-X. This allows numerous functions to be carried out in very small spaces. It contains a range of predefined interfaces to a master control system – including the OPC-UA interface for Industry 4.0.

