

 Prototyping

 Low Volume

 Mid Volume

 High Volume

 Customized Solutions

scorpion.

FULLY AUTOMATIC DISPENSING SYSTEM
OF THE NEXT GENERATION

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essemtec. 
swiss made

SCORPION

**Dots, lines, curves or
3D-dispensing**

Programming made easy:
Teach-in or file-import

Up to
4 dispensing valves

Stand-Alone or
Inline system

Automatic parameter correction
at change of viscosity

Valves for all applications

2 platform sizes



SWISS MADE

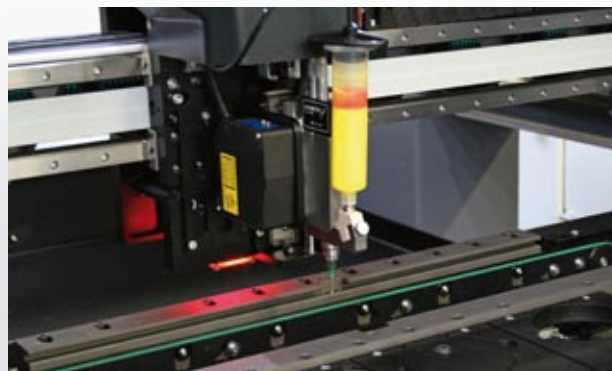
Scorpion – Versatile, High-Speed Dispensing System

“ Equipped with the most modern, accurate systems that drive and steering technology offer today – Essemtec sets new standards in dispensing technology! ”

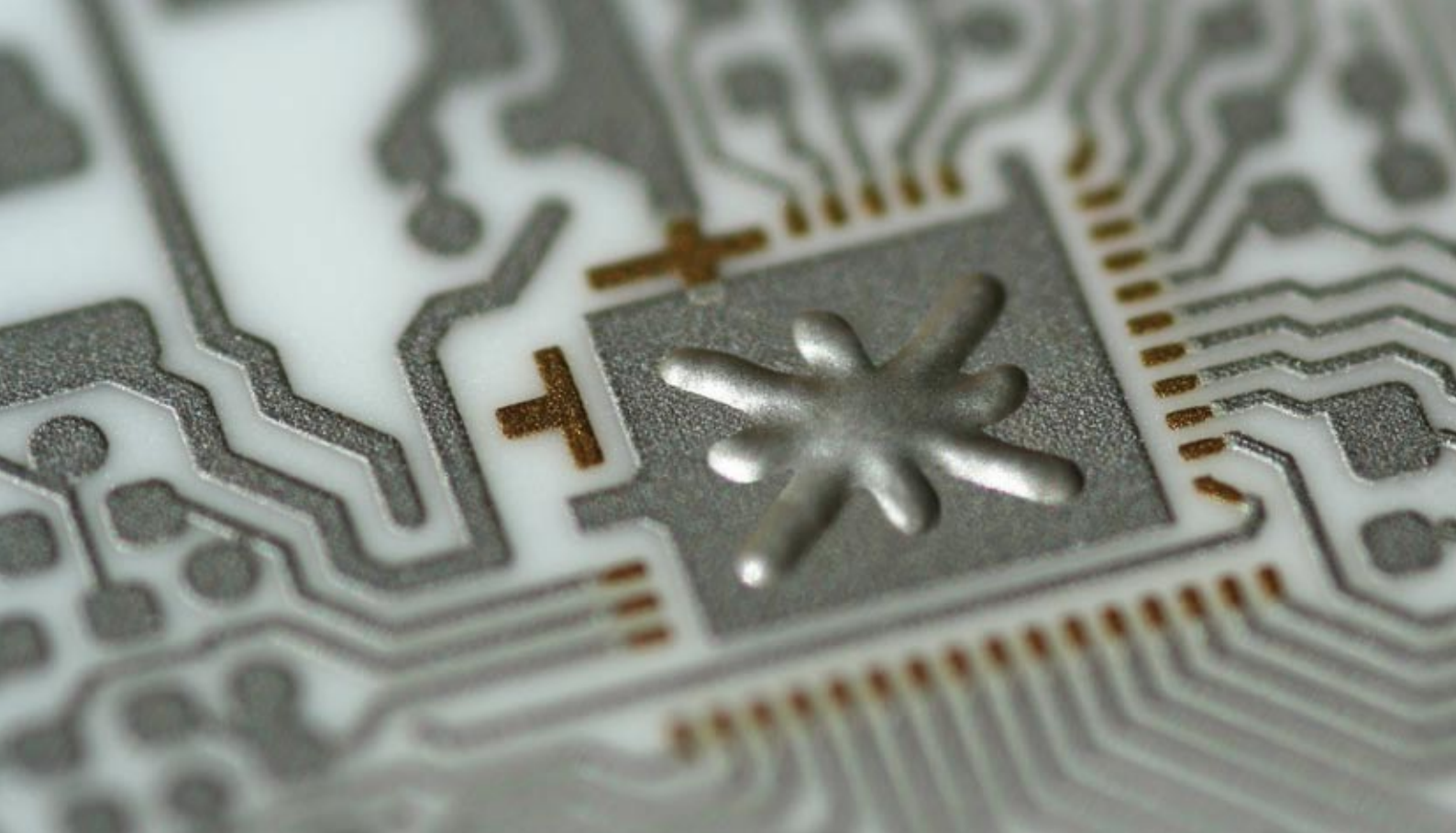
Because mediums rarely behave the same way, environmental conditions are significant for the behavior of liquid changes. This is why there is virtually no standard application in dispensing. There are specific solutions for each dispensing task depending on both environmental influences and the type of liquid.

The Scorpion offers users the best price-performance ratio on the market.

The Scorpion is equipped with the most modern, accurate systems that drive and steering technology offer today. The easy programming and operation allow for the use of a wide range of dispensing applications.



VARIOUS APPLICATIONS



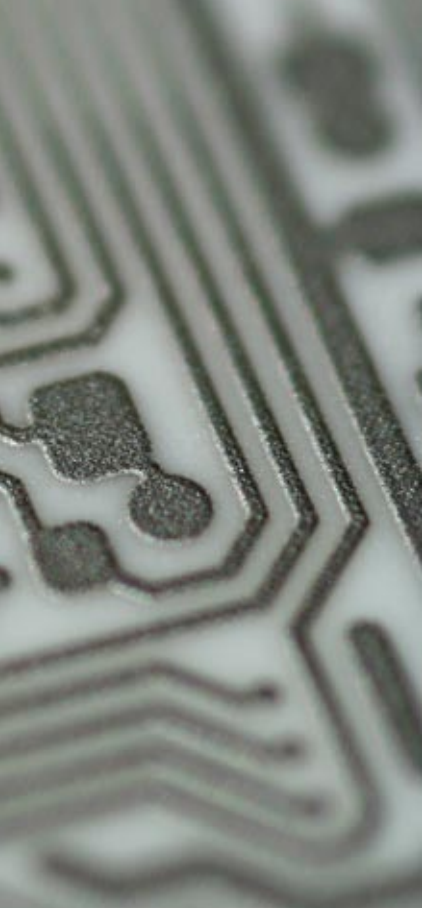
Applicable for almost every customer request

The requirements for a dispensing system are as varied as the applications. Scorpion's innovative software as well as its mechanical flexibility makes it ideal for almost every customer request. All process parameters can be changed freely and optimized for any particular process.

The Scorpion dispenses dots, lines and interpolated curves in 2-D or 3-D in an exact, reproducible way. Application examples of such tasks include dispensing of adhesives or conductive adhesives in electronics manufacturing, bonding of assembly parts, selective coating, filling of electronic components (flip chip), silicones for LEDs, and oil and grease for small

transmission gears, marking by means of inks and many further applications.

The standard dispensable area for an inline machine is specified at 510x470 mm (20x18.5"). However, the working area can be used flexibly and can be equipped with customer-specific substrate holders.



Dots, lines and curves

The Scorpion dispensing system is adaptable for every application. From the smallest dots to large-scale encapsulations, from straight lines to complex curves - everything is possible with one single machine.

Multiaxial

The XYZ drive control enables dispensing on multiple layers. A path control system regulates the forward speed in curves to a constant value.

Contactless dispensing

The substrate's height profile is recorded with the use of high-precision measurement technology. The offset of the dispensing needle then is corrected automatically.

Dual-head dispenser

Two different liquids can be dispensed in one step when using the dual-head option. Examples of such applications include LED on flex, dam and fill, and others.

Standalone or inline

The Scorpion dispensing system is available in two versions, standalone or inline. Additionally, product-specific holders can be inserted.

Versatile

The dispensing valve type is selected according to the application.

Choices include:

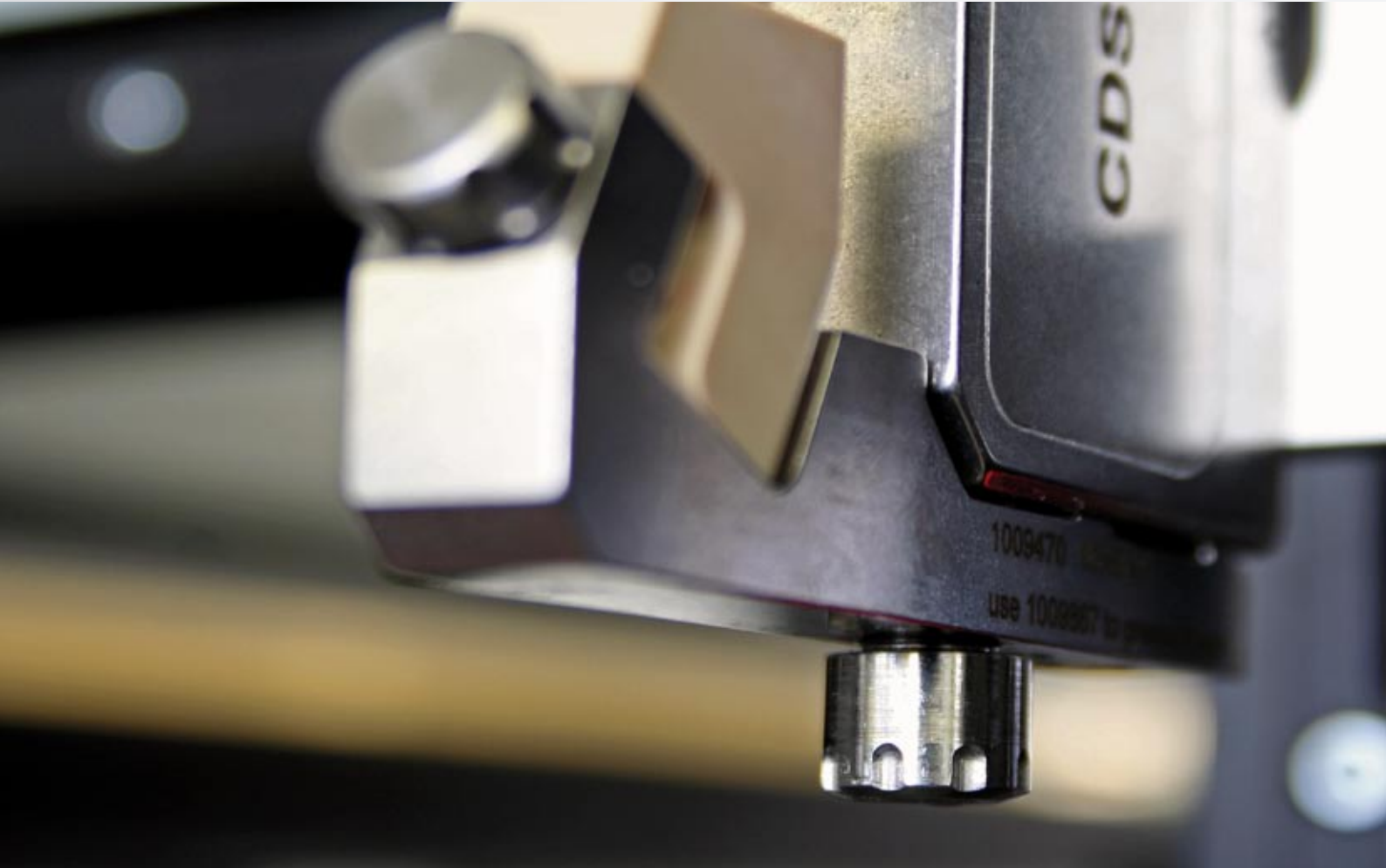
- Jet valve (heated up to 200°C, pressure up to 100 bar)
- High-speed valve for solder paste and other filled liquids
- Needle valve
- Time-pressure valve (heatable)
- Archimedean screw
- Other customer-specific versions

Jet-Valves

Essemtec is known for competences and longlasting experience in development, production and sales of innovative solutions in microdispensing technology by means of Jet valves.



DISPENSING VALVES



A large variety of different dispensing valves adaptable

Dispensing media are different in their chemical formulations as well as in their physical properties. Every medium must be dispensed differently. The Scorpion dispensing system provides a diversity of dispensing valves.

The dispensing valves can be exchanged quickly and two different valves can be used simultaneously with all models. Each of the dispensing valves is equipped with an independent, highly accurate C-drive with an 85 mm stroke (3.34").

The maximum performance of the Scorpion is achievable with Jet valves that allow drops to be shot over several millimeters and, therefore, does not need vertical motion. The Jet valve recommended by Essentec provides a wide application range. It dispenses liquid media and highly viscous pastes as well as filled adhesives or cyanacrylates.



Comfortable operation and programming

The Scorpion can be used very flexibly. Accordingly, the software is easy of use and offers useful functions for program generation and process optimization.

The integrated vision system allows for easy learning of dispensing dot locations. However, the coordinates also can be taken from a CAD system or from the program data of an automated placement machine.

Repeat structures can be stored and completely transferred in the dispensing program as pattern series. Programs can be duplicated limitlessly. The integrated "Optimizer" minimizes the dispensing head movements and provides an optimum process flow.

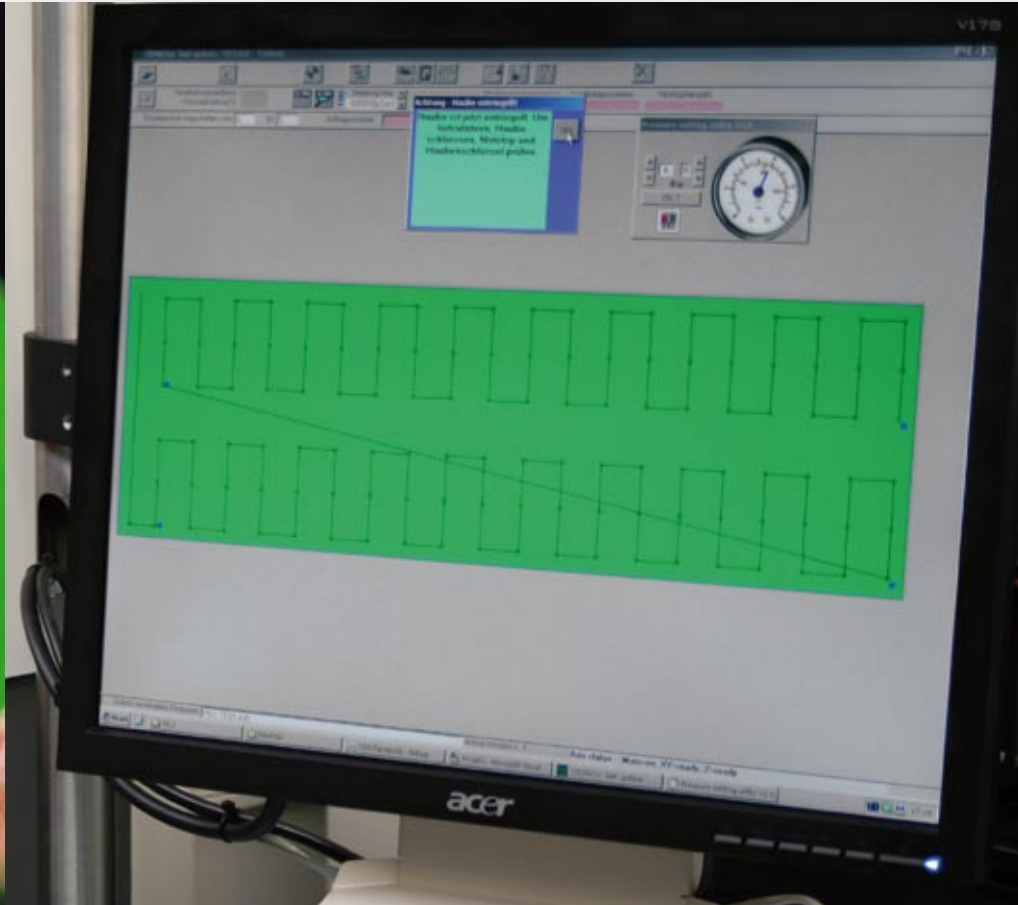
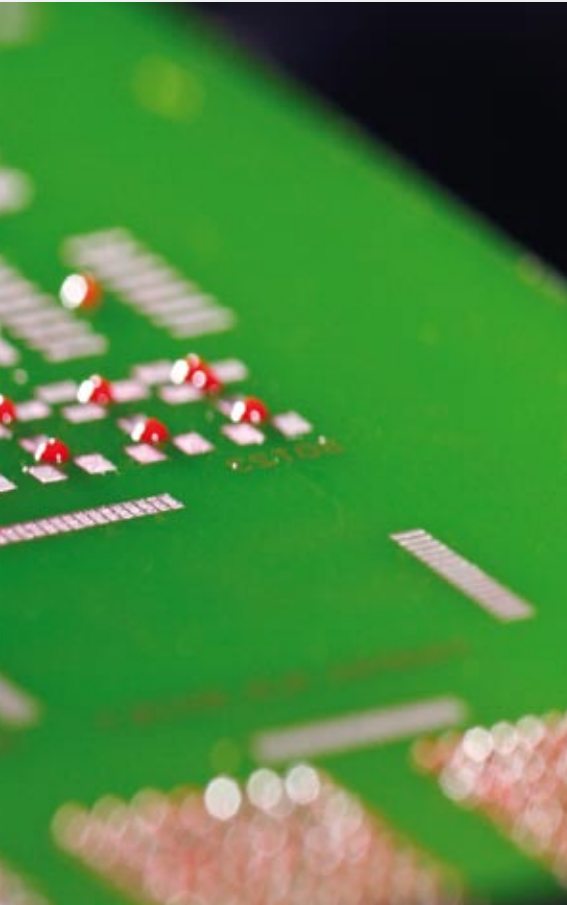
Dispensing programs can be prepared and changed completely offline. This minimizes the programming time of the machines and significantly increases productivity.



Automated process control

Through a multitude of control functions, the Scorpion operates reliably and reproducibly even if the environmental conditions, the medium or the substrate change. Dispensing parameters are constantly checked by a quick control system and are adjusted to the altered conditions if necessary.





Automated adjustment of dot size

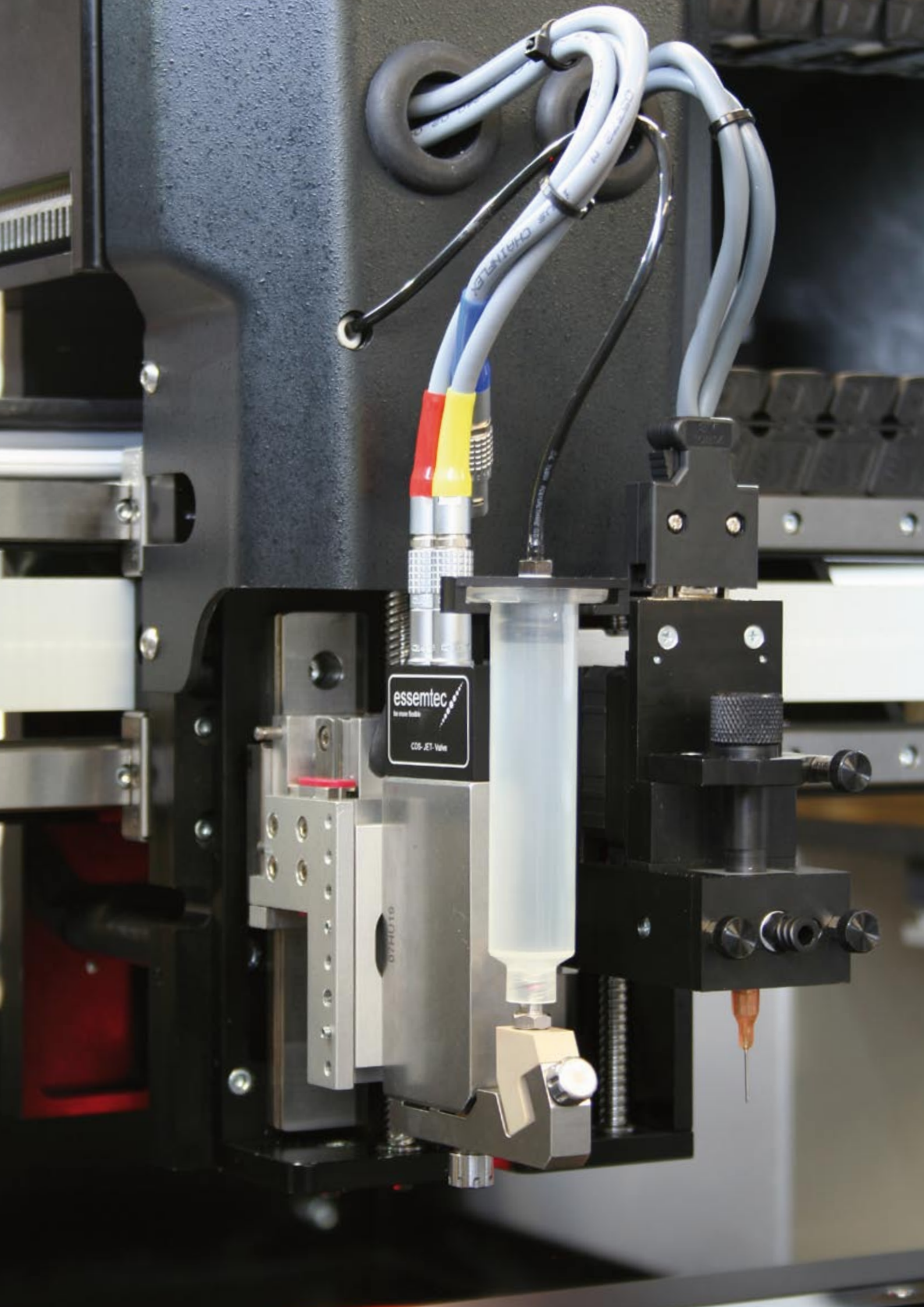
Controlling measuring actions are carried out at regular intervals. The dispensing parameters are corrected automatically so that the dot size remains constant, independently of the environmental conditions.

Registration mark identification

The integrated vision system identifies registration marks on the substrate and automatically compensates for offsets and rotation. Additionally, bar codes or matrix codes on a substrate can be scanned.

Cartridge fill-control

The cartridge fill-control guarantees a continuous production flow. The operator is notified when it is time to refill or exchange cartridges.



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NEXT GENERATION DISPENSING

Automated height compensation

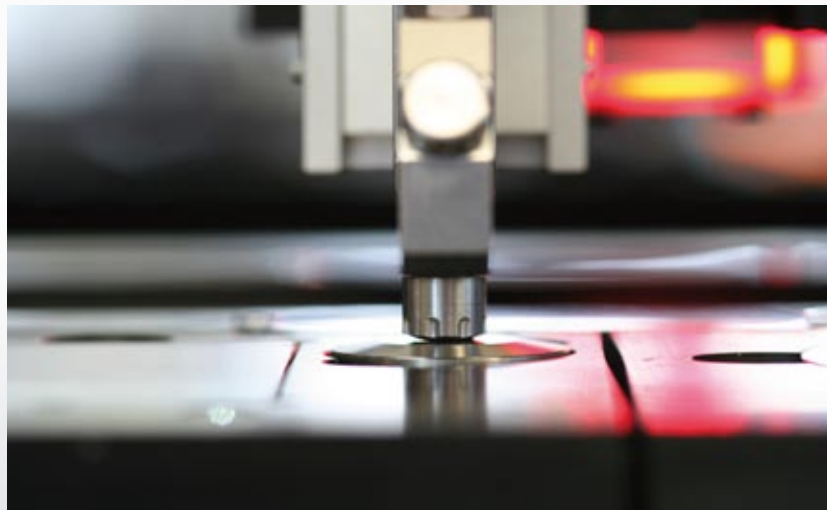
A high-precision laser sensor scans the substrate prior to dispensing with an accuracy of 1 μm . During dispensing, the position of the dispensing head is automatically corrected and follows the surface.

Integrated measuring station

Due to its complete protection of external influences, e.g. "wind", the integrated station monitors the dot volume to the nearest 0.01 mg (measuring time <1.5 s at 1 mg). If the volume differs, it is corrected automatically, guaranteeing a consistently high-quality product.

Substrate heating

Up to three substrate heating zones can be installed as an option. Substrate heating is particularly important for underfill applications. In a preheat zone, the board is preheated in order to be dispensed afterwards.



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