

High-precision dosing with different viscosities

Gluing the smallest electronic components with pinpoint accuracy using cartridge applicator units

Precisely gluing smartphone displays, applying thermal paste or gluing micro cameras in place are just a selection of the adhesive processes that represent the dosing and dispensing competencies of ViscoTec. Now the company has brought out cartridge applicator units designed for exact and clean feeding of adhesives, pastes and silicones of different viscosities, supported by a pneumatic control module supplied by Festo right to the ViscoTec assembly line as a ready-to-install module.

The latest devices for automated, even application of double-chamber cartridges are called eco-FEED and vipro-FEED DC. Double-chamber cartridges have the advantage of making it possible to work with media like adhesives, pastes or silicones with two components of different viscosities. Many adhesive processes depend on these adhesive components being mixed in a precise ratio. The two applicator cylinders are moved independently of each other in this process, and the correct adhesive mixture is applied to the components to be glued using a 2C mixing head from ViscoTec.

Cooperation with adhesive manufacturers

“The right mixing ratios are the result of countless test series based on decades of experience,” emphasises Martin Stadler, Managing Director of ViscoTec. To achieve this, the product developers at ViscoTec are in constant communication with adhesive manufacturers. “Even before they launch new adhesives, manufacturers approach us to conduct initial tests with our dispensing systems,” he adds. This explains why the engineers and technicians from the Oberbayern-based company are also known in the industry as “the adhesive experts”.

The reason ViscoTec is held in such high regard in the industry is not only because it develops and sells individual devices and components for applying adhesives, but also because it supplies complete systems to its customers. The cartridge emptying system and the dosing unit, for example, are fully compatible. Another plus for customers primarily from the electronics, automotive and aerospace industries through to the medical technology, food, pharmaceutical and cosmetic industries is the company’s ability to advise on the correct use of devices and adhesives or pastes and silicones.

The key here is: “We offer our customers a service where we conduct tests for their applications in the ViscoTec labs in order to work out the correct mixing ratio and the adhesive quantities to be used at different adhesive viscosities,” explains Stadler.

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Precise adhesive application

Especially in the electronics industry minute quantities need to be applied precisely and reproducibly to circuit boards, for example, or gaps need to be precisely filled on different electronic components, often using highly abrasive pastes, i.e. rough and aggressive with sharp-edged grains. “That needs a lot of experience,” explains Stadler.

This makes correct control and indication of the delivery pressure crucial. “In our devices, we rely on a control module with pneumatic automation technology from Festo,” says Stadler. It both indicates and controls the delivery pressure. It was developed in close cooperation with Festo, from the development of the prototype to the current production-ready device.

Ready-to-install control module

“The control module is a ready-to-install device supplied by Festo directly to the ViscoTec assembly line for cartridge applicator devices. It monitors the pressure and quality of the adhesive application independently of temperature and viscosity, and even enables volumetric filling, one of our specialities,” explains Christian Heidinger, Head of Product Management at ViscoTec. It offers optical filling level monitoring as standard, although an electric version is available as an option.

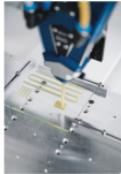
The module consists of a sturdy pneumatic valve VUWS, hand lever valves VHER, flanged pressure gauges, pressure regulators LR-D, fittings, silencers and PUN tubing. According to Heidinger: “Having the module delivered ready for installation by Festo saves us time and effort, since we know we can integrate it directly into the cartridge applicator device without any adjustment, and can rely on the renowned Festo quality as well as the worldwide availability of spare parts.”

Countless applications

As well as precise gluing applications, several hundred thousand ViscoTec dosing pumps are indispensable in industry worldwide where they are used every day, for example for filling cans and tubes for mascara, exfoliators or skin creams as well as for dispensing and filling fruit into jam jars, without clogging them up. The appeal of adhesive applications “made by ViscoTec” is that thanks to the highly precise application of the adhesive there are no rims of adhesive on displays or micro cameras, or no adhesive oozing from the corners and edges on glued components in everyday consumer goods like coffee machines or radios. “Striving for maximum precision when working with viscous media is what we do every day, and it’s why we’re the leader on the world markets,” concludes Stadler.

About ViscoTec:

ViscoTec Pumpen- u. Dosiertechnik GmbH manufactures systems for conveying, dosing, applying, filling and emptying medium to high-viscosity media. The technological market leader has its headquarters in Töging am Inn (near Munich, Bavaria). ViscoTec also has subsidiaries in the USA, China, Singapore, India and France, and employs around 270 people worldwide. All media with a viscosity of up to 7,000,000 mPas can be conveyed and dosed with almost zero pulsations and with extremely low shear.



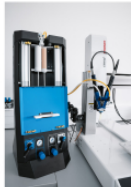
ViscoTec – applying of thermal paste

Maximum dispensing precision with systems from market leader ViscoTec, whether gluing smartphone displays and mini cameras or applying thermal paste.



Control module for ViscoTec

The heart of the system: the control module supplied ready for installation by Festo monitors the pressure and quality of the adhesive application independently of temperature and viscosity.



ViscoTec eco-FEED

The latest devices for automatically and evenly emptying double-chamber cartridges are called eco-FEED (shown here) and vipro-FEED DC. The control module is integrated in the lower section. The cartridge applicator cylinders as well as the ...



Christian Heidinger, ViscoTec

Christian Heidinger, Head of Product Management
at ViscoTec



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