Boschman Technologies offers distinct process and equipment solutions for the semiconductor industry and related markets.

Boschman focuses on specific market segments offering unique and superior solutions tailored to customer requirements and wishes. We dedicate our resources to deliver molding and sintering equipment for the following market segments:

- Mems and Sensor packages
- Powers/Discretes
- Smartcards
- Leadless packages
- Pre-molded packages
- LED

Mold and Sintering tools

All our molds and sintering tools are developed, engineered, manufactured and tested at our mold tooling center in the Netherlands - all under one roof. Our design specialists and experienced craftsmen form a formidable team with one goal in mind - meeting your requirements. Thanks to our long history of innovative design and precision manufacturing in the Netherlands, our molds comply with the highest standards. We only use powder metallurgy tool steels of the highest quality and deploy certified heat treatments and coating processes. Our molds and sintering tools offer unprecedented wear resistance, dimensional stability and field replaceable spare parts during their entire service life. Our sintering tools are designed and manufactured based on our long term experience on molding tools.

Mold and Sintering systems

Our molding and sintering systems are developed at our systems R&D facility in the Netherlands. Mechanical, electrical, software, process and mold-design experts work in multidisciplinary teams to realize the best possible total system solution. Our semiautomatic and automatic systems are produced at Boschman Technologies Asia in Singapore. Aside from an experienced production staff, we have local mechanical, electrical, software and process engineers available to ensure and maintain the highest possible production quality.

Packaging services

Our Advanced Packaging Center B.V. (APC) provides packaging services ranging from package technology research, package development, qualification, prototyping and small to medium volume manufacturing services. APC also assists customers to transfer from proto-typing to massproduction for mems, Sensors and advanced IC packages.

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SINTERSTAR

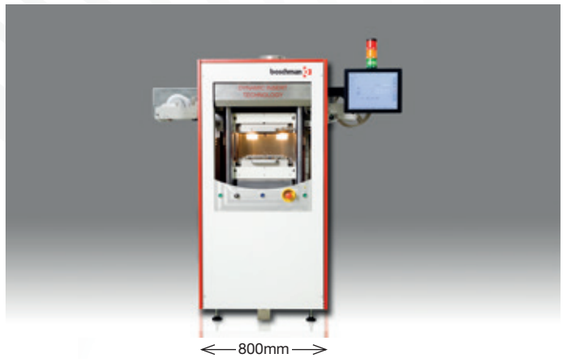
Innovate-F-XL

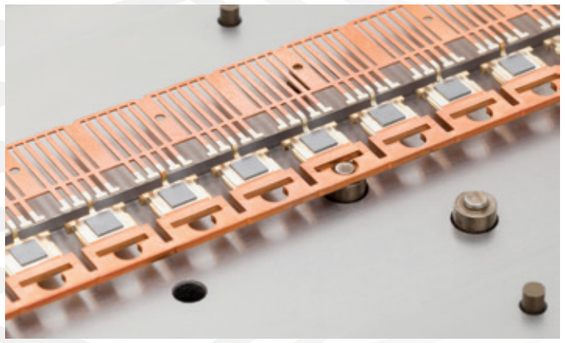
The most universal semi-automatic sintering system for all your green, lead free die attach technologies. Silver sintering is a new die attach technology offering a void-free and strong bond with high thermal and electrical conductivity. Resulting in high yield and high reliability. The system is capable to sinter a wide range of different devices, among others led, power, igbt, qfn, clip/heatsinks, thyristor and custom designed power module devices.

The Sinterstar Innovate-F-XL excels in offering largest sinter area of 350 x 270mm, precise temperature control up to 320 C. Our unique high precision dynamic insert pressure control technologies enables you to sinter multiple dies with different die thicknesses. Resulting in a controlled and predictable bond strength.

The most universal semi-automatic Sintering system

Field upgradeable to inline automated system. The Sinterstar Innovate-F-XL can be automated and connected with input- and output-transport belts. Gripper units need to be added in the system on input and output side. With only a width of 800mm an effective automated line concept can be realized.





By means of an easy to handle loading jig the carriers are placed on an elevated platform. At cycle start the sinter tool closes and at the same time the elevated platform lowers to tool level. Ensuring the heat up of the carrier is below 130 C when pressure is applied.

The elevated platform can be disabled for applications less critical.

High precision sinter test tool with individual dynamic inserts. The dynamic controlled inserts automatically compensate for die height differences and tilt. Compensates also for tolerance differences when same die thicknesses are used. Resulting in a controlled and predictable bond strength. The sintering pressure is independently controlled from the tool closing force.

SINTERSTAR INNOVATE-F-XL

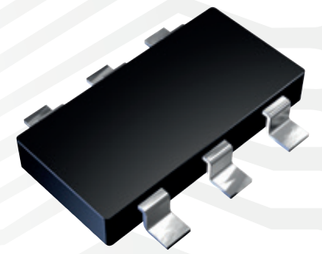
boschman technologies bv

Dynamic Insert Control Technologies

Sintering pressure is precisely controlled on each individual device or group of devices during the complete sintering process. The sinter pressure is programmable via the MMI (man-machine-interface). Enables multiple die thickness sintering in one sintering process. The dynamic controlled inserts automatically compensate for die height differences and tilt. Compensates also for tolerance differences when same die thicknesses are used. Resulting in a controlled and predictable bond strength. The sintering pressure is independently controlled from the tool closing force.

High Precision Press with Self Correcting Clamping System

Real time closing force control from 20-100 tons by easy to use, color touchscreen parameter settings. Sinter tool movements are controlled by servo motors.



Precise Sintering Temperature Control up to 320 C

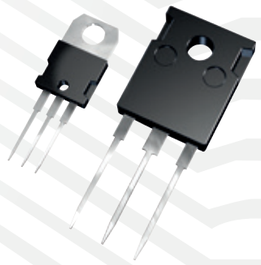
With the possibility to use sintering temperatures up to 320 C all known sintering applications can be used on this system. Precise temperature control ensures even sintering temperatures over the complete sintering area.

Largest Effective Sintering Area 350x270mm

Allows for highest production volumes and lowest sintering costs. Ensures all known applications can be sintered on this system.

Sintering Tool Configurations

Boschman offers specific tool solutions according customer wishes and application specific requirements. Small test tools for process development and research, production tools with dynamic inserts and fixed sintering production tools. All tools are designed, manufactured and tested in house at our tooling center in Duiven, the Netherlands. All tools are universally designed and fit on all our semi-automatic and fully automatic sintering systems. Tool exchange is easy and quick.



Top film protection

A roll to roll film protects the devices during the sintering operation and keeps the die clean. System can also run without film in case direct hard sintering is needed.

Hard Disk Drive and USB Port

Enables storage of all relevant process parameters and allows for easy extraction of data. All key process parameters can be monitored real time with upper and lower limits. Graphical display of sintering pressure, time and temperature is done for each individual sintering cycle.

Smallest Footprint and Easy Access, CE-certified

Cavity gas supply support