



**boschman**  
advanced packaging technology

## **UNISTAR SERIES**

Film Assisted Molding technology



# ABOUT BOSCHMAN

## Boschman is the one stop shop for highly innovative packaging solutions.

Boschman is a high-tech, solution driven Dutch company focusing on advanced packaging solutions. We provide a unique one-stop-shop concept – from idea to industrialization – offering her customers one point of contact for all packaging business. This approach ensures all processes to be carefully monitored and integrated, in order to create the most efficient and effective packaging solution and as short as possible time-to-market.

## Our industry focus

Our satisfied customers can be found in the following industries:

- Automotive
- Medical
- Military/Avionics
- Mobile
- Industrial

## Our application areas



**Mems & Sensors**



**2.5D/3D Packages**



**High Power Modules  
and packages**



**Smart Cards**



**Optical Packages**



## OUR PRODUCTS

### About Film Assisted Molding Technology

Film-Assisted Molding is a cluster of proprietary technologies comprising a variation on the transfer molding process. The Film-Assisted Molding process uses one or two plastic films in the mold. This film is sucked down into the inner surfaces of the mold (culls, runners and cavities) before the lead frames or substrates, i.e. the products to be encapsulated, are loaded into the mold. This is followed by the usual transfer molding process.

Boschman offers two categories of Film-Assisted Molding solutions: for R&D, prototyping and low volume production we offer the Semi-automatic, Unistar Innovate series. And for efficient, high quality medium to high volume production the Unistar Auto series are the best choice.



#### Unistar Innovate-2-FF-L

The most universal semi-automatic molding system designed for practically any kind of package. Works with lead frames, substrates, ceramic carriers and individual modules. Can handle standard mini-pellets, powder and liquid encapsulation materials.



#### Unistar Innovate-2-NF-L

The most universal semi-automatic molding system designed for conventional packages. Suitable for small to medium sized production volumes. Noted for very short conversion times when moving from one package to another and low cost tooling.



## OUR PRODUCTS

### Main Features Innovate:

- Maximum Leadframe / panel dimensions 255x75mm
- 1 chase for 1 or 2 strips
- Clamping force up to 100 tons
- Integrated de-gate tooling
- No, single or double film
- Dynamic Insert Technology for packages with exposed areas/ packages open area on the chip.
- Works with lead frame, substrate and ceramic carriers as well as individual modules
- Very versatile system for fast and easy conversion between different packages
- Easy release of the encapsulated products.
- Metal surfaces of the mold are kept clear of molding compound.
- The use of a large variety of molding compounds, including very sticky types and liquid silicone materials.



### Unistar Auto-2-FF-L

Fully automatic 2-strip Film Assisted Molding system designed for advanced mems, sensors, power, qfn and bga packages. This system can work with lead frames, substrates and ceramic carriers as well as individual modules.



### Unistar Auto-4-FF-XL

Fully automatic 4-strip Film Assisted Molding system designed for advanced mems, sensors, power, qfn and bga packages. The system can work with lead frames, substrates and ceramic carriers as well as individual modules upto a size of 100x300 mm.



## OUR PRODUCTS

### Main Features Auto:

- All specifications and values of the Sinterstar innovate series plus:
- Maximum Leadframe / panel dimensions 300x100mm
- 1 or 2 chases / 2 or 4 strips
- Clamping force up to 200 tons
- Integrated cassette handlers
- Large list of system options for increasing production efficiency, process control and guaranteeing the best quality.
- class 100 cleanroom option for optical devices
- Extremely long life-time of tooling resulting in very low running costs.
- Secs-Gem communication package for interfacing with a customer's MES system, production traceability and recipe management.
- Many options standard available for enabling fast change-overs, productivity improvements and quality assurance.



“ SMALLER, BETTER AND LOWER  
COST, WE REALIZE THE BEST  
PACKAGE FOR YOUR PRODUCT “



package  
development



assembly  
services



equipment

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