



## **Laser-Sealed and Water-Tight by Manz**

- **High-tech equipment manufacturer introduces laser-activated adhesion process for water-tight sealing of mobile devices**
- **Focus on scalable production processes with varying cycle time lengths**
- **Processing unit for laser sealing available as a module in the flexibly configurable LightAssembly platform**

**Reutlingen, November 12, 2019** The German high-tech equipment manufacturer, Manz AG, has introduced a processing unit for thermally sealing small displays on smartphones, smartwatches and fitness trackers. After the electronic elements and the battery are assembled, a laser is used to activate an adhesive element placed onto the device housing, which is then pressed onto the display glass. The dust-tight and water-tight seal, classified in line with the international IP standard, is one of the most sought-after features on mobile devices according to the market research institute YouGov. The new sealing process developed by Manz is already being used by a leading manufacturer of fitness watches.

The new compact system for the water-tight bonding of cover glass is fully automated and can be used with the smallest of device housing units. Individual sealing cycles can be as short as three seconds, allowing a processing unit to seal up to 1,200 devices per hour. The system can be flexibly scaled and linked: up to three processing units can run in parallel and be loaded in alternating sequence. The individual components and elements are set up e.g. in blisters or cassettes and placed in the processing unit by a robot using a carrier system that can be configured for various shapes and sizes. As gripper options, Manz offers either 3D Lambda kinematics or the proprietary touch-free Bernoulli SpeedPicker gripper.



### **Ideal for varying cycle time lengths in the assembly process**

“Our adhesive solution with buffered, alternating robotic loading using a carrier system provides considerably higher throughput with a consistent high quality compared to conventional rotary tables or conveyor belt systems. This allows our customers to set various cycle times between five and thirty seconds in processing units running in parallel without causing bottlenecks in the production process,” explains Dr. Martin Freundt, Head of Machine Development in the Electronics Division. “In assembly systems that use rotary tables, all the production steps must run synchronously. A conveyor belt system with workpiece-specific carriers is cumbersome and expensive for small components.”

When developing the system, Manz concentrated on providing smartphone and fitness watch manufacturers with the highest degree of flexibility in terms of display geometries and sizes. The system is also offered with integrated inline inspection for recording quality data. This allows, for example, the user to document the application pressure of the display in relation to the adhesive element or the sequence of the thermal laser activation to a precision level of two milliseconds. The system can be equipped with lasers provided by different manufacturers. “We can switch between processing units in an existing system in just a single day. Given today’s commonly short product life cycles, this means that we offer our customers the highest level of investment security,” highlights Dr. Martin Freundt.

The new process unit for laser-activated sealing of device displays can be integrated as a module that includes carrier lifts and fully automated loading and unloading units, even in the Manz LightAssembly platform with modular configuration. This platform can be equipped for very different joining and assembly processes in the production of electronics and it is capable of covering more than fifty different process steps, such as insertion of sensors and touch pads, screwing and soldering or laser applications such as welding or cutting.

**For further information and a live demonstration of the system, it is worth visiting Manz AG’s booth (Booth 221, Hall B3) at productronica in Munich from today, Tuesday, to Friday, November 15, 2019.**



**Images:**



**Image 1:** Touch Displays on smartwatch housings are sealed water-tight. With this solution from Manz, the red adhesive element is fed fully automatically, activated by laser and then the cover glass is pressed onto it.



**Image 2:** Loading interface for the display sealing system from Manz with three alternating and buffered-for-loading pre-tempered press units.



## Company profile:

### Manz AG – passion for efficiency

Founded in 1987, Manz AG is a global high-tech equipment manufacturing company. Its business activities cover the areas of Solar, Electronics, Energy Storage, Contract Manufacturing, and Service.

With many years of expertise in automation, laser processing, vision and metrology, wet chemistry, and roll-to-roll processes, the company offers manufacturers and their suppliers innovative production solutions in the areas of photovoltaics, electronics, and lithium-ion battery technology. The company's product portfolio includes both customer-specific developments and standardized single machines and modules, which can be linked to create complete custom systems. Manz AG offers high-quality, needs-based solutions that can be integrated early into customer projects to contribute significantly to customer success.

The company, listed on the stock exchange in Germany since 2006, develops and produces its products in Germany, Slovakia, Hungary, Italy, China and Taiwan. It also has sales and service branches in the USA and India. Manz AG currently employs roughly 1,700 workers worldwide, around half of whom work in the Asia region, which is key to the company's target industries. Manz Group revenue in the 2018 financial year totaled around 297 million euros.

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