

## Ultrasonics' Are The First Choice Plastic Joining Solution

For Italian Machinery Specialist FAMAT

PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SIEVING



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As a highly flexible and powerful joining method, Telsonic's ultrasonic technology has found its way into a multitude of applications across numerous industry sectors. Many of the diverse tasks to which this efficient technology has been applied internationally, are as a result of the innovation of system integrators and machine builders who see the ultrasonic welding process as a robust solution to the joining challenges faced by their customers.

Italian automation and machinery specialists [F.T FAMAT](#) design and build bespoke turnkey solutions for assembly, testing, welding, conveying, palletising and many more manufacturing operations and processes. With extensive experience in applying ultrasonic welding technology the company know that they can rely on the quality, consistency, performance, and reliability of Telsonic's ultrasonic modules and systems.

In a recent application Telsonic's ultrasonic technology was a key element in a comprehensive system used to produce a swimming pool roller shutter/blind system. The process begins with the bulk supply of 30 packs, containing 8 roller blind slats each, being presented to the system. This provides a production buffer, minimising the requirement for operator attendance.

The system has the capability to process roller blinds from just 2 metres in length up to 10 metres in length. Prior to the ultrasonic welding operations, the parts are loaded to the system by an overhead gantry system before being cut to length to an accuracy of +/- 2 mm. Parameters such as the cutting speed and cut depth etc. can be set either via the system HMI, or remotely through a software interface with the customer's production management system.

The next stage in the process is the presentation and assembly of the plastic slat endcaps. These are fed from a vibratory bowl feeder unit before being picked individually by a robot, which then transfers and places the end caps into the slats one at a time. The ultrasonic welding system, supplied by Telsonic, is mounted to a linear axis which is automatically positioned in front of the most recently assembled end cap, and the welding sequence is initiated joining the end cap to the slat.

The welding parameters can be set individually via the control panel (HMI) for each specific roller blind, and these are then regulated in terms of frequency, power, and pressure. As for the cutting parameters, it is also possible to set the welding parameters through a software interface with the customer's production management system.

Since the introduction of this fully automated system, the customer has realised a 400% increase in productivity when compared to the previous production methods and only one operator is required occasionally to monitor the system. The production cycle for a roller blind is around 20 seconds, and this includes all of the part handling, cutting, and welding operations. A further benefit of automating this manufacturing process is that the system conforms to Industry 4.0 standards, allowing for the highest levels of connectivity and feedback throughout the manufacturing process.



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[Link to the video](#)

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