



ULTRASONS / ULTRASONICS

ULTRASONIC RANGE

FOOD CUTTING



MECASONiC
Plastic Welding Solutions

mecasonic.com

EN





**Offreurs
de solutions**
Industrie du futur

We are

PWS +

Founded in 1969 as a manufacturer of ultrasonic welding equipment, MECASONIC joined the Crest Group in 2000 and became one of its technology centres, developing six welding technologies: ultrasonics, spin, hot plate, vibration, laser and thermic.

Our leadership is driven by our ability to innovate and meet the expectations of our customers across sectors such as food, automotive, cosmetics, household appliances, electronics, recreation, medical, metals, food and beverage, packaging, textiles, and many others.

As a member of the French Alliance Industry of the Future and certified as suppliers of Industry 4.0 solutions, we are also a connected player in the 4th industrial revolution.

* Plastic welding solutions

Food cutting with ultrasonics

Since 1969, MECASONIC has been at the forefront of developing and manufacturing high-performance ultrasonic welding equipment. With decades of experience, MECASONIC has become a trusted partner in the food industry, offering a specialised range of ultrasonic food cutting generators and tools.

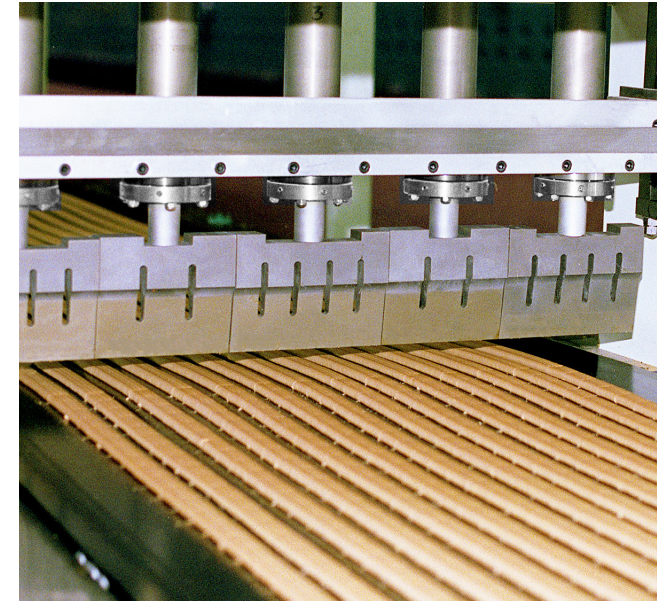
Principle

The principle behind MECASONIC's ultrasonic cutting technology is straightforward: a vibrating cutting blade (sonotrode) is programmed to operate at a defined amplitude (ranging from 30 to 80 μ peak to peak) depending on the food meant to be cut. The vibration creates rapid acceleration that allows the blade to cut through various products with an up-and-down motion at the given frequency.

Detailed Benefits

MECASONIC's ultrasonic food cutting technology brings many benefits to food processors, particularly in enhancing food cutting performance and quality:

- **Preserved Structure:** Foods with complex structures—such as stuffed food with nuts, raisins, etc. But also delicate texture such as : nougats, cheeses, quiches, pastries, pizzas, sandwiches, sausages, foie gras, and both fresh and frozen products— cut without getting damaged. The ultrasonic blade prevents crushing, preserving intact, smooth surfaces. A perfect cut that visually highlights the food's fine texture.
- **Fast & Continuous Cutting Capability:** The system allows for uninterrupted, continuous cutting, increasing operational efficiency.
- **Amplitude control:** The amplitude can be adjusted according to the actuator speed for optimized performance.
- **Slice Thickness Adjustment:** The only cutting technology able to guarantee the slice thickness accuracy. Uniformity and consistency in every cut can be ensured resulting into reduction of food waste.
- **Self-Cleaning Blade:** The blade is designed for easy maintenance, reducing the need for frequent cleaning. In 2025, MECASONIC launches a new titanium sonotrode coating that further reduces stickiness and maintenance requirements.
- **Enhanced Tuning:** With amplitude variation settings, the system supports multiple cutting purposes.



Sonotrodes adapted to different cutting applications

MECASONIC manufactures effective, custom made cutting tools for the food industry available in different shapes and sizes to suit a wide range of applications.

The titanium used for manufacturing our sonotrodes meets stringent food requirements, ensuring durability and reliability in food processing environments. Additionally, the acoustic assembly integrates seamlessly into production lines and custom machines with special titanium-canned converters, providing flexibility and easy adaptation to various setups.

Share your project with us and we will develop the most tailored solution to meet your needs.

Custom-Made Tooling

MECASONIC's laboratory is available to test and advise on the ideal sonotrode profile for your specific project. The available profiles include:

- Symmetrical
- Right angle
- Exponential
- Asymmetrical

Key benefits

- ✓ No damage to the product
- ✓ Fast and Continuous cutting capability
- ✓ Amplitude adjustment
- ✓ Self-cleaning blade
- ✓ Uniformity and consistency in every cut
- ✓ Multiple cutting purposes

20 kHz



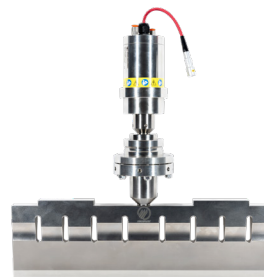
30 kHz



40 kHz



Examples of acoustic stacks: sonotrodes 20kHz, 30 kHz and 40 kHz, with converter and booster



Versatile Integration – standard equipment and food cutting kit

MECASONIC offers two models of ultrasonic generators—PULSE One and PULSE Touch—available in both 20 kHz, 30 kHz and 40 kHz frequencies, with a range of power levels. These systems offer:

- Continuous cutting (PULSE One intensive use model only)
- Sequential cutting (PULSE Touch model only)
- Amplitude adjustment according to the actuator speed

Our ultrasonic cutting blades can be integrated into multi-axis robots or other specialised machinery, offering flexibility for various production needs. Both PULSE Touch or PULSE One generators can be recommended for use with a custom-made cutting kit (sonotrode / booster / converter).



PULSE One generator



PULSE Touch generator



Frequency	Available power	
20 kHz	1 500 W	2 000 W
30 kHz	1 000 W	
40 kHz	800 W	



Converters 20 kHz - 30 kHz - 40 kHz



Sonotrodes 20 kHz, 30 kHz or 40 kHz



Booster

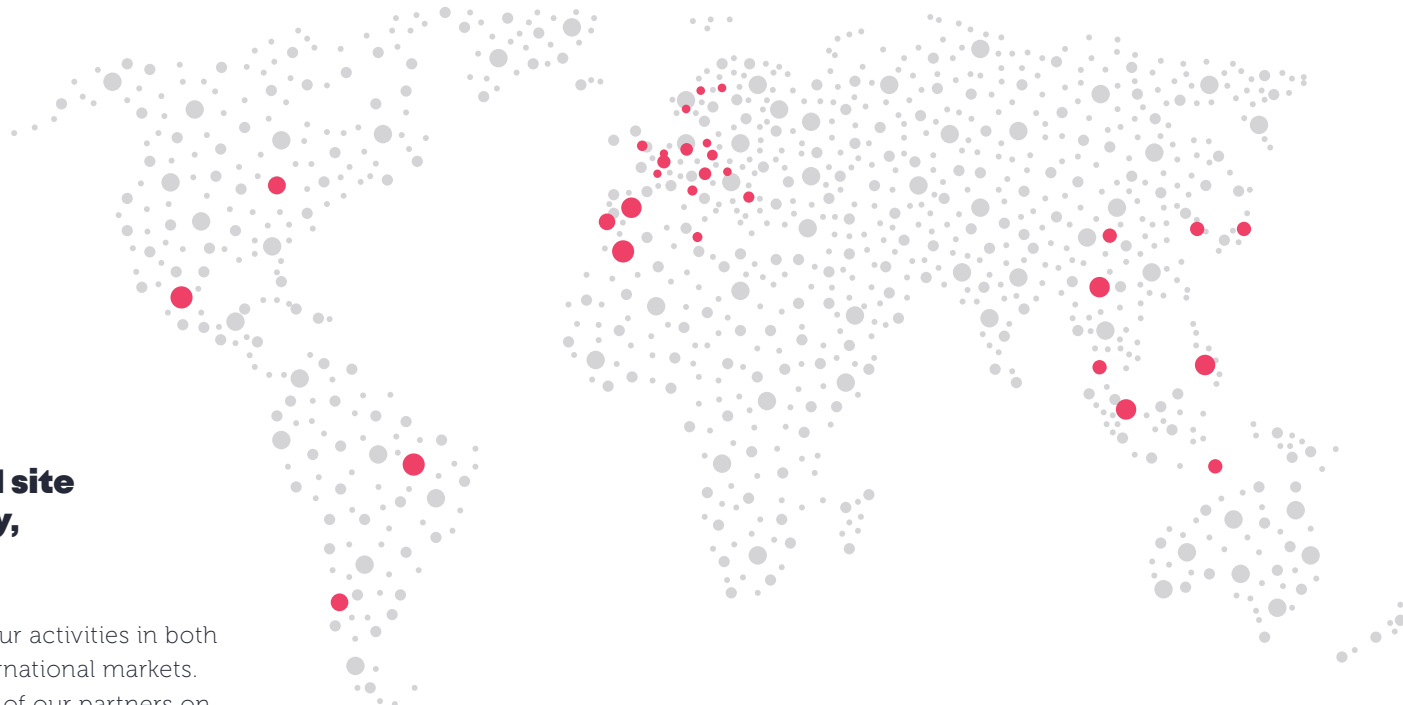
Numerous applications

Cheeses, Pastries, Nougat, Pizzas, Sandwiches, Cold cuts, Foie gras, Fresh and Frozen products and many more!



From our industrial site in Juvigny, France...

We manage our activities in both local and international markets. The presence of our partners on every continent allows us to expand our reach to provide effective, localised service to our customers worldwide.



Germany
England
Argentina
Belgium
Brazil
China
South Korea
Denmark
Spain
Finland

Indonesia
Israel
Italy
Japan
Malaysia
Morocco
Mexico
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Philippines
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Slovenia
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Tunisia
Turkey
USA



Welcome line
+33 (0)4 50 877 300
After sales service
+33 (0)4 50 877 316



234 rue Georges Charpak
74100 Juvigny
France



mecasonic.com
contact@mecasonic.com

