



Ultrasonic Welding

Plastics
Technologies
in Motion.

During the ultrasonic welding of thermoplastic polymers, materials to be joined are plasticized under pressure. This process is through the targeted conversion of sound energy into heat in the joining zone. The geometry of the joining zone is a key factor in sound conversion. During ultrasonic welding, sound vibrations are introduced into an adherend via a sonotrode. This sound energy is then converted into heat through targeted joint seam geometry in order to achieve plastification in the joining zone.

Ultrasound enables

- The welding of plastic surfaces
- The riveting of plastics
- Joining materials, e.g. leather to plastic
- The manufacture of large production lots

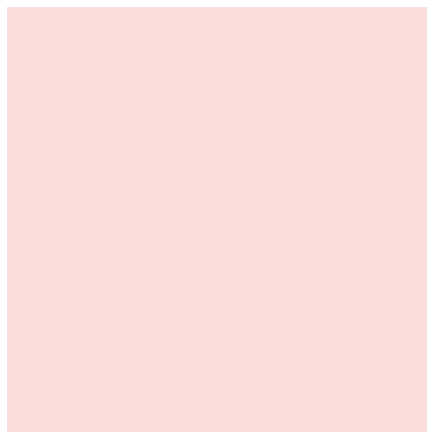
Equipment portfolio

FRIMO JoinLine – Machinery series for ultrasonic welding

The equipment portfolio encompasses standard machinery for nearly every application with a standardized tool-changing system available. Additionally, smaller standard machines are part of the portfolio, which are more economical and allow for a variety of uses.

In the middle range of machines, equipment types are offered which enable economical and highly productive welding. Machinery in the upper machine segment offer welding of very complex and high-volume components. Innovative drive technology has shortened cycle times. Very compact ultrasound units facilitates space-saving construction.

FRIMO also offers a variety of automated solutions. Depending on project and customer requirements, widely varying production layouts as well as combination and special solutions are feasible. All JoinLine ultrasonic welding machines can also be combined with other joining processes.



FRIMO Ultrasonic Welding Tools – Flexible and Efficient

Equipment technology

FRIMO offers innovative concepts for rapid tool change to allow for optimal handling and higher productivity.

- Modular system in the form of an interchangeable cassette
- Cassette usage guarantees optimal protection of welding units
- Rapid tool change possible within 3 minutes by only one operator
- Each machine can use multiple cassettes
- Tool change cart optional
- Depending on production conditions, tool change is possible on the front or back side of the machine



Complex ultrasonic joining tool with ultrasonic standard components

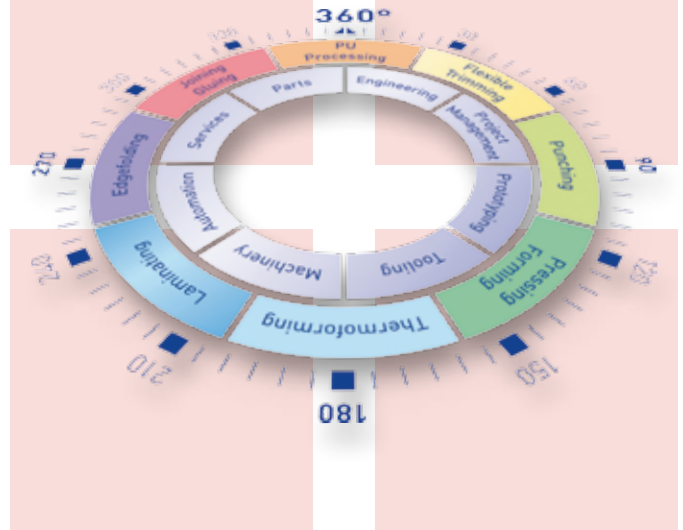


Benefits

- Cost-effective process
- Very short cycle time
- Quick and cool joining process
- High strengths
- Simple machine technology; large parameter window
- Numerous references
- Expertise in all joining processes



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