

# From machine builders for machine builders

Ultrasonic components from the  
world's leading manufacturer

# Precision in perfection: guaranteed quality thanks to in-house production

The MS Ultrasonic Technology Group is part of the Schunk Group. Together with its subsidiary, Schunk Sonosystems, Schunk is the world leader in ultrasonic welding of metal. MS Ultrasonic acts as a technology and innovation leader in the field of ultrasonic welding of plastics. It develops and builds flexible ultrasonic custom machines, pioneering ultrasonic series machines, modular systems for packaging solutions, nonwovens applications and efficient ultrasonic components such as generators, converters and sonotrodes for high-performance complete solutions. MS Ultrasonic thus meets the demanding needs of customers in the automotive, packaging / food, textile, medical technology, consumer goods and electrical components industries.

For many years now, the MS Ultrasonic Technology Group has been integrating its ultrasonic components, developed in-house and produced at its main location in Germany, into its machines. As a result, customers benefit from decades of expertise in machine building – from machine builders for machine builders. We serve you with our tried and tested in-house modular system. Many components are available as stock items, guaranteeing the shortest possible delivery times for spare parts and replacements.

## Technical specifications of the components

The components are available in the frequencies 35, 30 and 20 kHz with power ratings of 1,000 W to 6,000 W. Customer-specific designs and solutions can also be implemented.

### ADVANTAGES

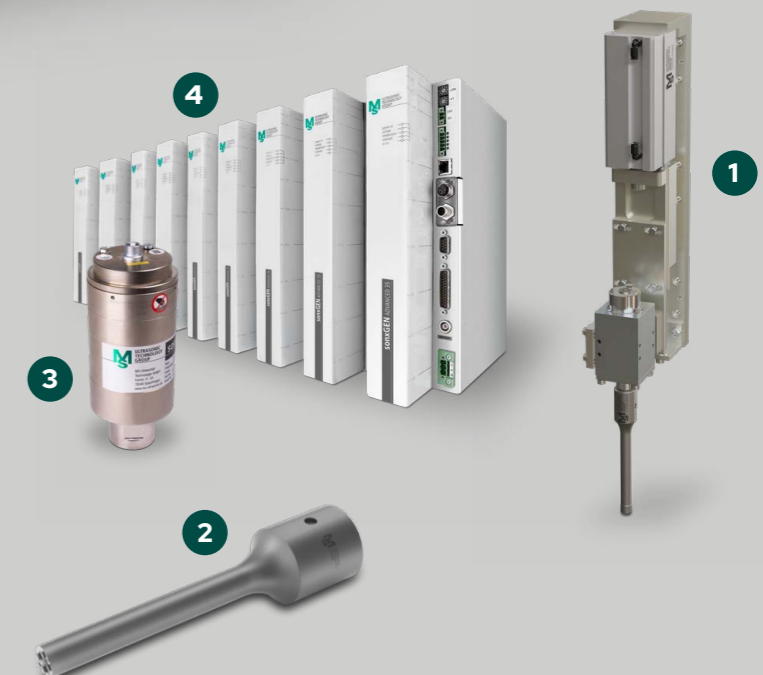
- + Quality "Made by the MS Ultrasonic Technology Group": developed and produced at the headquarters in Germany
- + Durable and robust
- + Energy-saving and efficient
- + Specially adapted to the application and to each other
- + Maximum reproducibility of the welding process
- + Consulting expertise and know-how transfer from mechanical and plant engineering



Use of the ultrasonic components using the MS sonxMAC custom machine as an example

- 1 MS sonxACT feed unit
- 2 MS sonxSON sonotrodes
- 3 MS sonxCON converters
- 4 MS sonxGEN generators

We offer a wide range of attachment components.



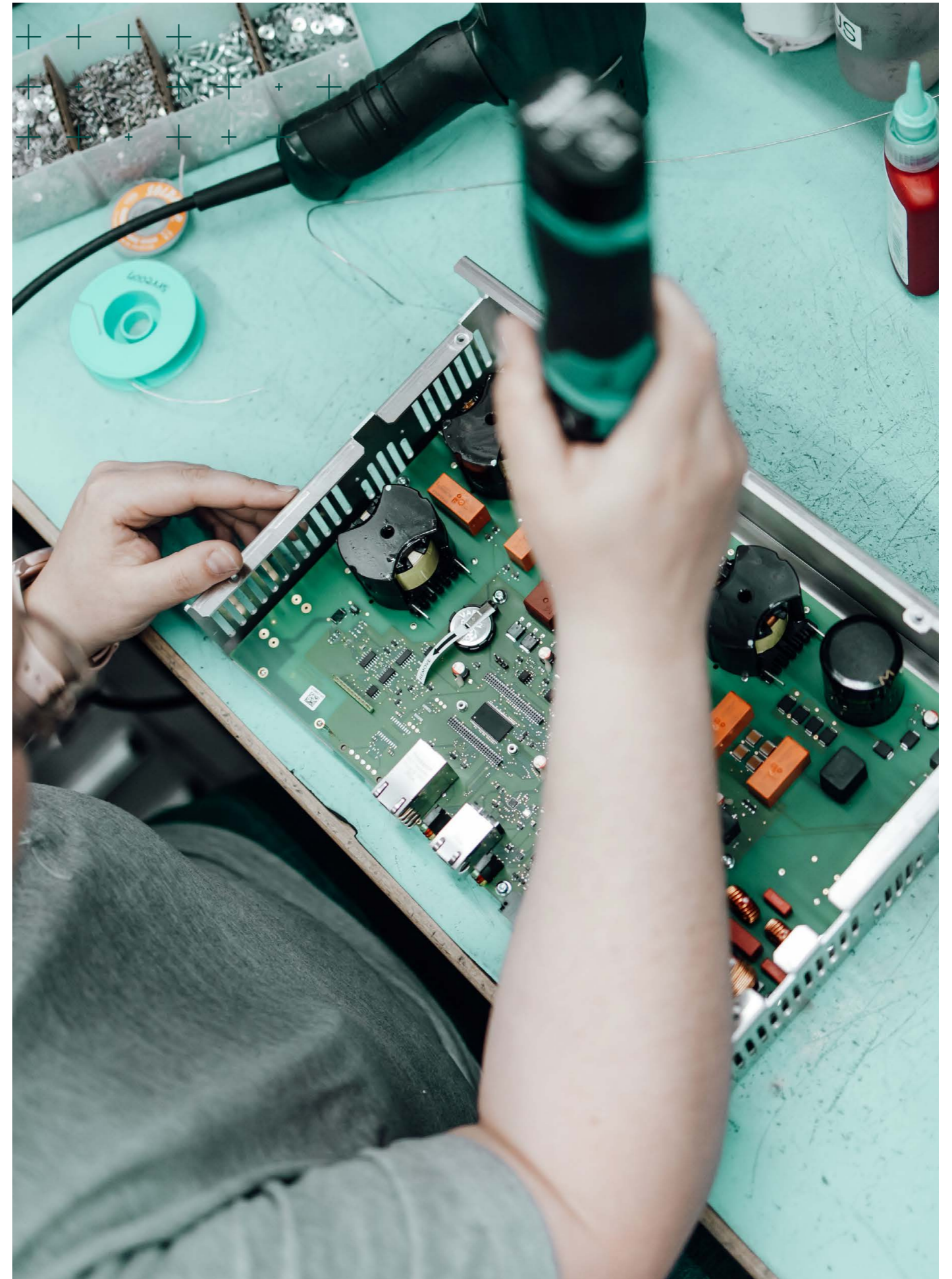
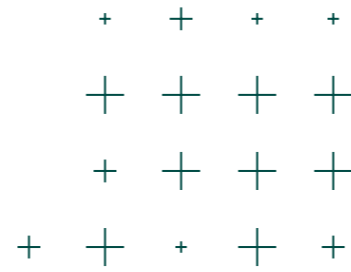
# Ultra: intelligent – MS sonxGEN generators



Available in versions in line with requirements, MS sonxGEN are the most intelligent and powerful ultrasonic generators of all time. They are equipped with all common interfaces that enable secure and fast communication with machine control systems or higher-level networks.

## FEATURES AND ADVANTAGES

- Dynamic reduction of transient oscillation times
- Constant sealing process through compensation of temperature changes
- Maximum reproducibility for consistently high product quality
- Comprehensive documentation of the welding process
- Simple operation
- Significantly shorter cycle times to increase productivity
- Universal use of the ultrasonic generators thanks to modularly adaptable interface modules / bus systems



Six employees produce around 2,000 generators and 8,000 converters per year.

# Ultra: powerful – MS sonxCON converters



Converter without retaining collar



Converter with retaining collar

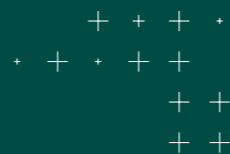


XS converter with screw-on surface at the front

The MS sonxCON piezoelectric ultrasonic converters convert the electrical high-frequency oscillation into a mechanical longitudinal or torsional oscillation. The converters are available in a wide range of designs in various housing materials with a degree of protection up to IP69. A resonant unit can be attached directly to the converter, alternatively to the transformation unit or even to the sonotrode. All of the corresponding transformation units are available in the portfolio.

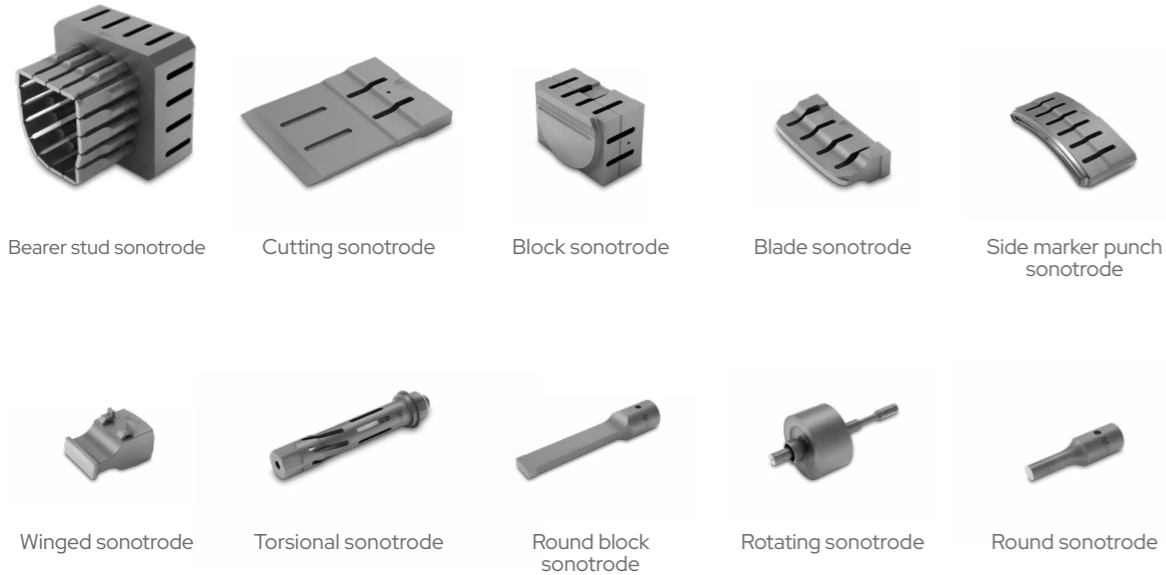
## FEATURES AND ADVANTAGES

- High efficiency
- Flawless vibration pattern thanks to high-quality materials
- Repeat accuracy due to tight tolerances
- Long service life, even with large amplitudes
- Sturdy construction
- With cooling
- Longitudinal or torsional oscillation
- Piezo disk design for maximum output amplitude



The 100,000th 35 kHz converter was installed at the end of 2023.

# Ultra: durable – MS sonxSON sonotrodes



Thanks to a detailed design for the component, FEM calculation (finite element method) using the latest technology, careful material selection, precise production and exact adjustment, the MS sonxSON ultrasonic sonotrodes stand for the highest quality for welding, sealing, riveting, laminating, cutting and separating.

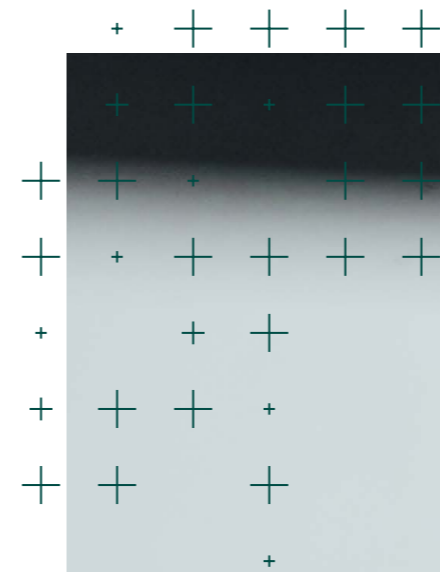
In addition to a large portfolio of standard sonotrodes, the MS Ultrasonic Technology Group offers an equally wide range of customized sonotrodes.

## Types of sonotrodes

Sonotrodes are available in various longitudinal and torsional designs: e.g. knife, block, round, bearer stud or piercing / "hedgehog" sonotrodes ("fakir" sonotrodes).

### FEATURES AND ADVANTAGES

- Suitable sonotrode geometries available for every application
- Long service life thanks to individual selection of the sonotrode material to suit the material to be processed
- Best result due to precise oscillation behavior of the sonotrodes
- Long service life, long lifetime
- Stable process with low temperature expansion thanks to innovative mounting bracket
- Materials: Titanium, steel, aluminum, various coatings for corrosion wear protection

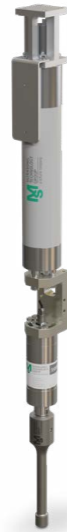


The laser vibrometer provides precise information about the speed and amplitude of vibrations.

# Ultra: flexible – MS sonxACT feed units



MS sonxACT 35 kHz (standard)



MS sonxACT XS 35 kHz (compact)



MS sonxACT 20/30 kHz

MS sonxACT feed units in various versions are particularly flexible in use thanks to their compact construction and slim design.

The feed units are available as pneumatic and servo-electric versions in various strokes and for variable working forces, so there are no limits to your welding solution.

In demanding applications, they replace pneumatic feed units in machine and plant engineering. The MS sonxACT guarantees very precise and continuous welding, thanks to the individually controlled feed rate. The welding quality and energy efficiency are increased by MS Ultrasonic's innovative control.

## FEATURES AND ADVANTAGES

- Quick and efficient replacement of the resonant unit thanks to the quick-change system
- Reduced investment costs and shorter installation times thanks to tandem units with up to three sonotrodes
- Modular and flexible use
- Simple machine integration due to compact construction with slim design
- Stable design for highest welding quality even at high welding pressures due to double guide
- Complete portfolio of peripheral and attachment parts, e.g. height / angle adjusters, various adapters and connections etc. from our modular system
- Options: Integrated depth shut-off, LVDT system, swivel unit



As a specialist in the field of ultrasonic, MS Ultrasonic uses its own feed units in custom mechanical engineering.

# #TEAMSONO



Combined expertise in the field of ultrasonic welding of metals and plastics.

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