TELSONIC
ULTRASONICS

Product information

TSP/USP Ultrasonic welding systems

TSP/USP ultrasonic welding system: for the highest standards and a wide application range

USP and TSP ultrasonic welding systems for welding and forming thermoplastics and separating textiles, fleeces and foils are suitable for everything from small-scale to very large applications. The TSP torsional ultrasonic welding systems can also be used to weld non-ferrous metals. Telsonic's patented torsional welding process is an extremely gentle technique for supplying energy that significantly reduces the amount of unwanted vibration transferred to the welding object. With this development, it is now also possible to gently weld delicate products such as sensors, membranes or IGBT on ceramics.

The exceptionally stable, modularly extendable Telsonic press design in combination with the Telso®Flex controller and the highly efficient MAG generator guarantee optimal process control with maximum flexibility. The Telso®Flex control software also offers various process monitoring options as well as data interfaces for easy integration into networks and control systems.

Areas of application

The robust and durable USP (longitudinal) ultrasonic welding systems are frequently used in large-scale production processes, such as in medical technology and in the automotive industry. Thanks to their high level of conversion flexibility, they are also ideally suited to applications with unit counts.
Telsonic's SONIQTWIST® torsional welding process with TSP presses succeeds where conventional longitudinal ultrasonic technology reaches its limits.

Typical applications

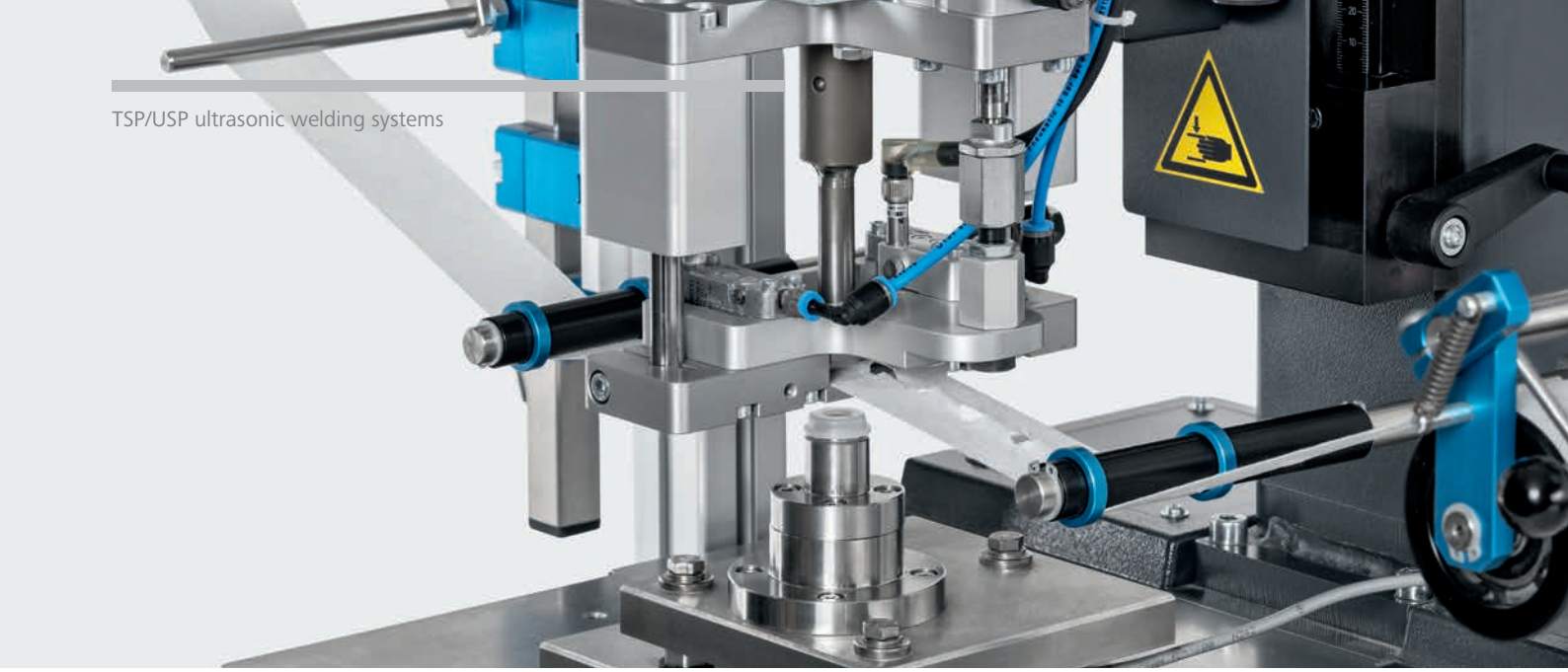
- **Riveting, flanging, seam welding and spot welding thermoplastics**
- **Cut'n'seal processes for textiles, fleeces and foils**
- **Embedding metal parts**
- **Metal welding connections point by point and with circumferential welding geometry**
- **Low-vibration welding of electronic components**
- **Producing peel-off covers, e.g. aluminium lids**
- **Seal welding for packaging**

Application examples

Dose dispenser, inhaler

Steam iron-water tank

Membrane in an injection-moulded part



TSP/USP ultrasonic welding systems

Gentle cutting and welding of a filter membrane in one work step (torsional)

Highlights

- Suitable for high production rates and short cycle times
- Quick application changeover
- Efficient energy supply thanks to precisely reproducible transmission of power
- Compact fusion formation resulting in low particle formation (medical technology)
- Automatic weight compensation
- Vacuum detection
- Operation via touchscreen
- Flexible user administration
- Bend-proof press design
- Modular design, system integration
- Low maintenance
- High reliability
- Long service life
- CE compliant

Highlight SONIQTWIST® (TSP)

- Suitable for plastic and metal welding
- Convenient accessibility even in confined spaces
- No membrane effect
- Ideal for welding filters and membranes, as well as crimping
- Gentle, low-vibration process, e.g. for sensors
- Mark-free welding (anvil-side)
- For round and angular parts

ADVANTAGES WHEN WELDING METALS

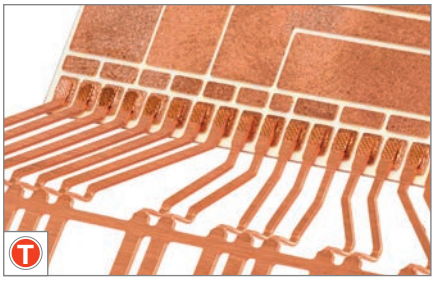
- Welding in recesses
- Best accessibility in X/Y planes
- Integrated vacuum for positioning of parts
- Welding of parts with large dimensions
- Helium-tight welding
- Welding on ceramics (power electronics IGBT)

L **Longitudinal welding** principle

T **Torsional welding** principle (SONIQTWIST®)

Vehicle binacle housing

Pressure-tight welding of aluminium capsules



Power electronics IGBT (ceramic substrate)

TSP ultrasonic welding systems

TSP750

TSP3000

TSP8000

SONIQTWIST®
Torsional welding | **unique** by Telsonic

Technical data TSP torsional welding presses

	TSP750	TSP3000	TSP8000
Welding power	600 N	2500 N	7900 N
Height adjustment	200 mm	250 mm	150 mm
Stroke	100 mm	100 mm	80 mm
Levelling table for aligning the welding plane	optional	optional	optional
Adapter plinth height (optional)	100 / 200 mm	200 / 300 mm	–
Contact shut-off module for Cut'n'seal processes	optional	optional	optional
Noise protection cabin for sound insulation	optional	optional	–

USP Ultrasonic welding systems

USP750

USP3000

USP4700

USP8000

USP12000

Technical data USP longitudinal welding presses

	USP750	USP3000	USP4700	USP8000	USP12000
Welding power	600 N	2500 N	4100 N	7900 N	11800 N
Height adjustment	200 mm	250 mm	250 mm	150 mm	150 mm
Stroke	100 mm	100 mm	80 mm	40/80 mm	40/80 mm
Adapter plinth height (option)	100/200 mm	200/300 mm	200/300 mm	–	–
Levelling table for aligning the welding plane	optional	optional	optional	optional	optional
Parallelism setting on booster mounting	–	optional	optional	–	–
Contact shut-off module for Cut'n'seal processes	optional	optional	optional	optional	optional
Noise protection cabin for sound insulation	optional	optional	optional	–	–

Telso®Flex: Process control and future security for ultrasonic welding presses

Intuitive user interface for ultrasonic welding systems

Remote access to Telso®Flex control software

Extendable

Modular and customisable software architecture for ultrasonic welding systems and automation lines in plastic welding, Cut'n'seal and metal welding applications.

Interfaces

Windows IoT operating system and interfaces on the 12" touch panel (4×USB, 2×Ethernet and 4×COM ports) facilitate data exchange on network drives and storage media.

Industry 4.0

OPC UA secures the network connection between welding systems/automation lines and workstations outside of the production area.

Traceability

Welding results can be saved locally on a USB stick or on the network and customised as required.

Quality assurance

Quantity is quality! A variety of weld counters (unit, stack, batch) monitor operation and ensure that job order quantities are correct.

Visualisation

Clear, ergonomic and intuitive user interface for easy operation in conjunction with a new resistive 12" touch panel.

MAG ultrasonic generator

MAG 19" rack generator

The MAG ultrasonic generator is predestined for simple and complex welding and cutting tasks in individual workstations, production lines and special systems.
The MAG is based on a multi-processor architecture and features highly dynamic control. This ensures high process stability so that the highest standards in quality and cost-effectiveness are met.

Options

SSK SOUND ENCLOSURE

The SSK sound enclosure is suitable for all linear and torsional presses up to 5000 N. With its ergonomic housing, the noise protection cabin offers effective protection for employees against noise emissions. The interior also offers enough space for presses with adapter plinths, a foil feeder and other accessories.

USV/TSV ACTUATORS

For integration into automation lines, the actuator units for the Telsonic welding presses are also available separately. Optionally available with height adjustment and stand as well.

ADDITIONAL OPTIONS AND ACCESSORIES

- Levelling table for optimum alignment of the welding plane
- Contact shut-off module for Cut'n'seal tasks
- Adapter plinth for larger welded products
- Parallelism setting on booster mounting
- Quick change for holder

FOIL FEEDER

For Cut'n'seal tasks and to improve the surface of the weldment, a supply of foil and fleece is sometimes required. The pneumatic foil feeder with a maximum foil width of 100 mm transports the belt to the welding station in cycle and then coils it again.

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Your Contact

www.telsonic.com

This brochure may show parts which are available as options rather than as part of the standard equipment. In some cases, safety covers have been opened or removed in order to show machine details more clearly. Subject to changes to dimensions, design and equipment. See separate data sheets for technical data.

Certified to ISO 9001

666004169 / 0419 / en / Subject to technical modifications