

TSP ultrasonic welding systems

SONIQTWIST® – torsional ultrasonic welding systems to meet the highest standards



Benefits of SONIQTWIST®

- Suitable for plastic and metal welding
- Easy to access even in small spaces
- No membrane effect
- Gentle, low-vibration technique, e.g. for sensors
- For round and angular parts

TSP welding presses

- Various welding modes providing maximum flexibility
- Process control and statistical evaluation
- High accuracy
- Ergonomic and user-friendly
- Quick application changeover
- Robust and reliable

TELSONIC's patented torsional welding technique 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. The extremely stable TELSONIC press design can be extended with modules and operated in combination with the TCS5 controller to guarantee you maximum control of your process. A range of welding modes and trigger types enable optimum joint welding. Welding results are monitored in quality windows and automatically evaluated both graphically and statistically.

Application and industries

- Welding and fusion forming thermoplastics
- Cut'n'seal processes for textiles, fleeces and foils
- Metal welding connections: point and circumferential welding geometry
- Low-vibration welding of electronic components
- Producing the peel-off function, e.g. aluminium covers
- Seal welding aluminium packaging without plastic coating

TELSONIC's torsional technique succeeds where conventional longitudinal ultrasonic technology reaches its limits.

Features and benefits

- Suitable for plastic and metal parts
- Good accessibility as only one vertical movement is required
- Both round and angular parts can be welded
- Low component vibrations ideal for sensors
- No membrane effect (unwanted fusion and perforation), e.g. for films and parts with thin walls
- Solid welding on thin-walled visible parts without marking on either side
- Compact fusion formation and therefore low particle formation (medical technology)
- Strong and tight welding seams even if the joint is contaminated
- Helium-tight welding seams possible
- High welding seam strength
- Short cycle times
- Operation via touchscreen
- Flexible user administration
- CE compliant



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
Dimensions W x H x D	642 x 1098 x 677 mm	762 x 1316 x 854 mm	680 x 1802 x 843 mm
Weight	80 kg	130 kg	320 kg
Working area W x D	370 x 250 mm	420 x 415 mm	440 x 450 mm
Levelling table to align 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

TCS5 controller

	TSP750	TSP3000	TSP8000
Various welding modes	✓	✓	✓
Configuration of multi-stage amplitude and power profiles	✓	✓	✓
Clear method administration	✓	✓	✓
Quality windows for welding parameters	✓	✓	✓
Statistical evaluation	✓	✓	✓
Configurable I/O automation to control peripheral processes	✓	✓	✓
Integrated monitoring and process control for the noise protection cabin	✓	✓	✓
Intuitive graphical interface	✓	✓	✓

Torsional ultrasonic welding components



Torsional resonator	SE2010TC	TR2.4	TR6.5	TR10
Peak power	1.2 kW	2.4 kW	6.5 kW	10 kW
Frequency	20 kHz	19 kHz	20 kHz	20 kHz
Converter cooling	Yes	Yes	Yes	Yes
Generator type	MAG-T020012	MAG-T019024	SG-22-6500	SG-22-10000
Press type	TSP750		TSP8000	
		TSP3000		

A selection of proven applications

- PA, round or angular housing, with internal electronic tight weld, e.g. sensors
- PP, inflated part with uneven surface, weld on foil – medical component
- PP/EPDM, welding in bumper distance sensor holder – high strength, no impressions visible on the face side.
Previously painted components can also be welded.
- ABS, tight welding of shock absorbers, through the oil medium
- PP, labelling machines, cosmetics industry, tight welding
- PP, fittings on automotive interiors
- PA, fixing components on Duroplast honeycomb plates
- PA6.6GF30, high-pressure container, 80 mm diameter
- PC/ABS, automotive loudspeakers, a ring weld to replace numerous rivets
- MIM, intricate work on valve seats
- PE, foil valves
- Calibration of injection-moulded components
- CU, gas generator for airbags
- Lithium polymer batteries
- CU, high-performance transistors
- CU, AL, cable connections in the automotive industry

Further applications at www.telsonic.com

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
- Noise protection cabin for sound insulation
- Material transport to protect part surfaces

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