

USP ultrasonic welding systems

The ultrasonic welding system for optimum quality across the entire range of applications



Advantages at a glance

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

USP ultrasonic welding systems for welding and fusion forming thermoplastics and separating textiles, fleeces and foils are suitable for everything from small-scale to very large applications. The stable TELSONIC press design can be extended with modules and operated in combination with TCS5 controller and MAG generator to guarantee you maximum control of your process. A range of welding modes and trigger types enable optimum ultrasonic processing of plastic parts. The welding results are monitored in quality windows and automatically evaluated both graphically and statistically.

Application and industries

The robust and durable USP ultrasonic welding systems are frequently used in large-scale production processes, for example in medical technology and in the automotive industry. Easily converted, however, they are also ideally suited to applications with small units.

Typical areas of application for USP ultrasonic welding systems include:

- Riveting, flanging, seam welding and spot welding thermoplastics
- Cut'n'seal processes for textiles, fleeces and foils
- Embedding metal parts

Features and benefits

- High welding seam strength
- Suitable for high cadences and short cycle times
- Operation via touchscreen
- Flexible user administration
- Quick application changeover
- Rigid press design
- Modular structure, easy to extend
- Efficient energy supply due to precisely reproducible power transmission
- Automatic weight compensation
- Vacuum detection
- Strong and tight welding seams even if the joint is contaminated
- Helium-tight welding seams possible
- Low maintenance
- High reliability
- Long service life
- CE compliant



USP ultrasonic welding presses

	USP750	USP3000	USP4700
Welding power	600 N	2500 N	4100 N
Height adjustment	200 mm	250 mm	250 mm
Stroke	100 mm	100 mm	80 mm
Dimensions W x H x D	459 x 1098 x 677 mm	459 x 1315 x 854 mm	459 x 1315 x 854 mm
Weight	80 kg	130 kg	130 kg
Working area W x D	370 x 250 mm	420 x 415 mm	420 x 415 mm
Levelling table to align the welding plane	optional	optional	optional
Parallelism setting on booster mounting	–	optional	optional
Adapter plinth height (option)	100 / 200 mm	200 / 300 mm	200 / 300 mm
Contact shut-off module for Cut'n'seal processes	optional	optional	optional
Noise protection cabin for sound insulation	optional	optional	optional

TCS5 controller

	USP750	USP3000	USP4700
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	✓	✓	✓

Ultrasonic components

Converter	SE2012	SE3512	SE2024	SE2036	SE2050
Peak power	1.2 kW	1.2 kW	2.4 kW	3.6 kW	4.8 kW
Frequency	20 kHz	35 kHz	20 kHz	20 kHz	20 kHz
Converter cooling	optional	optional	optional	optional	optional
Generator type	MAG-W020012	MAG-W035012	MAG-W020024	MAG-W020036	MAG-W020048
Press type	USP750			USP4700	
			USP3000		

Available 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
- Noise protection cabin for sound insulation
- Parallelism setting on booster mounting
- Material transport to protect part surfaces

USV3000 actuator with height adjustment and column



USP750E press with column spacer



TELSONIC
ULTRASONICS

TELSONIC AG
Industriestrasse 6b
9552 Bronschhofen
Switzerland
Tel. +41 71 913 98 88
Fax +41 71 913 98 77
E-Mail info@telsonic.com

TELSONIC GmbH
Gundstrasse 15
91056 Erlangen
Germany
Tel. +49 9131 687 89 0
Fax +49 9131 687 89 77
E-Mail info.de@telsonic.com

TELSONIC UK Ltd.
Units 12a-15 Birch Copse
Technology Road
Poole, Dorset BH17 7FH
United Kingdom
Tel. +44 1202 697340
Fax +44 1202 693674
E-Mail info.uk@telsonic.com

TELSONIC doo
Atar 95
21241 Kac
Serbia
Tel. +381 21 621 0010
Fax +381 21 621 3738
E-Mail info.rs@telsonic.com

TELSONIC Ultrasonics, Inc.
50350 Rizzo Drive
Shelby Township, MI 48315
USA
Tel. +1 586 802 0033
Fax +1 586 802 0034
E-Mail info.us@telsonic.com

TELSONIC Solutions, Inc.
10 Ossipee Road, P.O.Box 38
Newton Upper Falls,
MA 02464-0001
USA
Tel. +1 617 244 0400
Fax +1 617 415 1555
E-Mail info@telsonicmetal.com

TELSONIC Ultrasonic Equipment Co., Ltd.
3rd Floor, JunXiangDa Building A,
No. 9, ZhongShan Park Road,
NanShan District
ShenZhen, 518055,
China
Tel. +86 755 2731 0238
Fax +86 755 2731 0239
E-Mail info.cn@telsonic.com

You can locate our
worldwide representatives
at www.telsonic.com