Ultrasonic metal welding is described as a friction welding process, where oxides and other contaminations present on the material surfaces are broken up, and the parts to be welded are brought together under simultaneous pressure. Molecular bonding, similar to the conventional cold-press welding, then takes place.

The greater the challenge, the stronger our commitment:

Ease of automation, weld parameter monitoring and statistical process control are demanded by the market, as they are prerequisites for the use of ultrasonic metal welding in industrial production environments.

On the basis of solid engineering know-how and Swiss precision machine building, we offer application specific welding systems for semi- and fully-automated production processes.

ROOP TELSONIC offers high power/high precision equipment for linear and torsional welding process.
ROOP TELSONIC offers portable ultrasonic tube sealing system combined with the ultrasonic power supply to hermetically seal copper tubes in refrigeration units with superior seal reliability and lower cost of operation.

The operator places the Telsoseal over the charged fill tube and actuates the start switch. A pneumatic cylinder advances a cam to clamp the tube closed and ultrasonic vibrations at 20 kHz vibrate the inner tube surfaces to form a true metallurgical weld. The tube is then cut off from the fill head completing the cycle in under 2 seconds.

**Ultrasonic Tube Sealer Machine - CS-1500**

- Charged tubes are crimped, welded and cut off in under 2 seconds
- The reliability of the welded seal exceeds all other methods
- Both the weld tip and anvil offer 4 weld surfaces for the best economy
- Automatic quality monitoring of each seal
- The handle and hook has been designed for the most convenient and effortless manipulation of the system
- With help of Good/Bad welding LED, operator can easily identify the result
- With help of Encoder we can pre-define the ultrasonic depth and hence over welding can be totally avoided.

Continuous seam welding of copper and aluminum, in particular, is easily achieved with the Rotary Welding Head, combined with an external synchronized drive. The ultrasonic output power can be upto 3000 Watts.
Ultrasonic Rotary head for continuous application

Plastic coated aluminum tube

Linear ultrasonic metal welder with 4'000 N clamping force and max. 6'500 W output power

Welding of two contacts into copper tube, with automatic parameter switching

Typical torsional applications

Lithium-ion-battery

Wire termination

Flexible wires onto terminal
ROOP TELSONIC offers high power/high precision equipment for wire splicing. Precision and reliability are decisive preconditions for electrical connections in automobile wire harnesses. Ultrasonic welding ensures flawless electrical conductivity in the wire splices over years and years.

- **Compact Machine - light weight**
  - No booster, approx. 12kg including tools
  - Cross sections from 0.2mm² up to 45mm²
  - Perfect for splicing on and off assembly board

- **User-friendly for set up and operation**
  - Simples design
  - User-friendly touch screen

- **Simple, fast and secure Tooling Change-over**
  - Tool change within 15 minutes
  - Adjustment is mechanically defined
  - Innovative tool change concept reduces setup failures
  - Automatic calibration of the tools. No additional gauge needed.

- **Very stable and safe process**
  - The rigid mounting design of the sonotrode and the special anvil guide guarantee minimum deflection and energy loss
  - The special generator technology guarantees a stable amplitude over the total welding (+/-2%).
  - Automatic system calibration after a tool change and every startup of the machine

**Software**
- Networking with multiple machines
- Clearly arranged and extremely user-friendly touch screen software
- Option to program a two-step amplitude and/or force profile

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**CONTACTS**

**Factory**
Gandhinagar
Tel: 079-23287452 / 23287454 Fax: 2328 7455

**Branch Offices & Representatives**

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**Exports**

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