

Wire Splicer Ultrasonic Wire Welder

Ultrasonically splices wire bundles quickly, creating a true metallurgical bond. Microprocessor ensures perfect welds every time.

General Description

The WS2016 or WS2026 Ultrasonic Wire Welder makes the lowest resistance and most reliable electrical connections possible. Under controlled pressure, the Wire Splicer system quickly produces a true solid-state metallurgical bond... without melting the wires or producing arcs, sparks, or fumes. No longer do you have to clip, solder, crimp, or dip to make high-quality, high-strength wire connections.

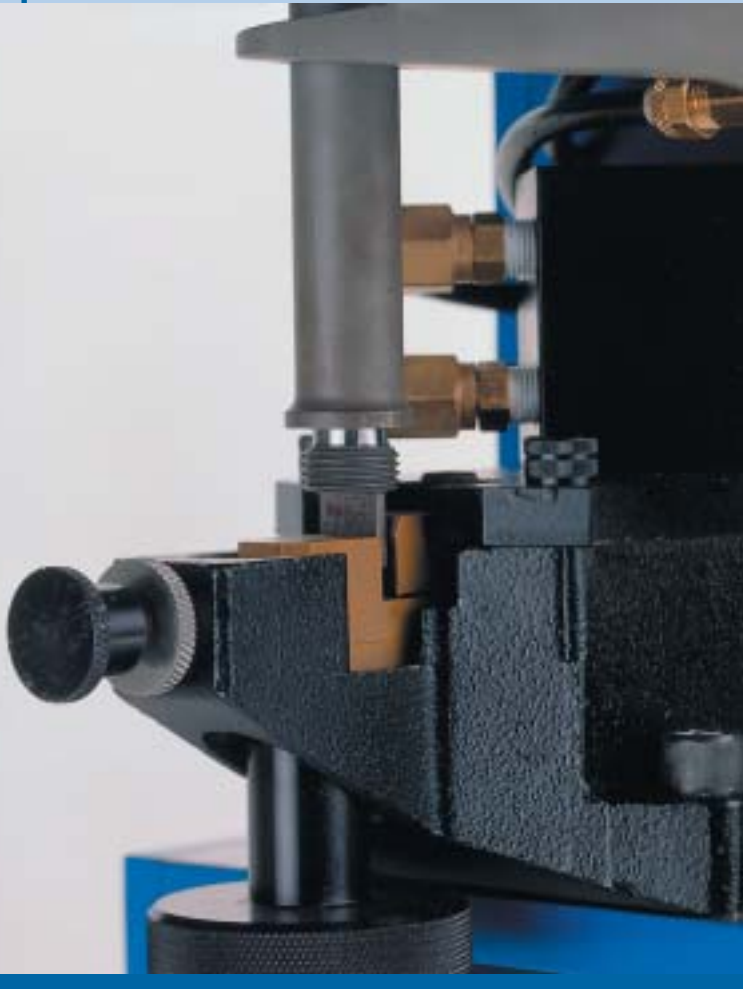
Based on Sonobond's patented "Wedge-Reed" system of High Vibratory Force and Low Amplitude, the Wire Splicer Welder can bond wire bundles even if the wires are oxidized. No other ultrasonic welder can do as well.

Features and Benefits

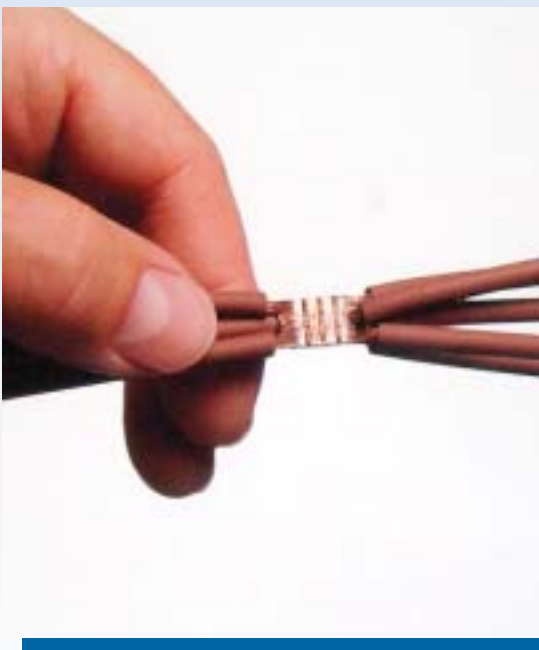
- Solid-state metallurgical bonds are produced with the lowest possible voltage drop and minimum energy consumption.
- Microprocessor controller stores and recalls up to 250 jobs.
- Weld can be controlled by height, by energy, or by time.
- Stored jobs in microprocessor are locked out from operator adjustment.
- Microprocessor can interface with computer via RS232 port.
- Sonobond's entire line of ultrasonic metal welders feature our taper lock tips which allow for quick tooling change and fail proof placement.
- Tips last up to 300,000 welds. Low downtime for redress of tips.
- Burnback, cooling water waste, and high-energy usage associated with resistance welds are all eliminated.
- Wire Splicer System is very simple to setup and operate.
- System available in 1500 and 2500 watts power capacity.
- Each Wire Splicer includes a set of tips which allow for a range of 1mm² to 30mm² of final weld area depending on wattage of power supply.

Applications

The Sonobond Wire Splicer is ideal for production manufacture of wire bundles found in the automotive, aircraft, computer, consumer electronics, and a wide variety of other process control or industrial instrument applications.



Wire splicing tooling



Theory of Operation

In ultrasonic splicing with the Sonobond Wire Splicer, moderately low static force is used to clamp the wires together. The power supply converts input line power into high frequency electrical power and transmits the energy to the transducer in the splicing head. The transducer converts the electrical energy into vibratory energy. The vibratory energy is delivered to the wire bundle in the form of sound waves above the audio frequency range. The applied vibratory energy disperses the oxides and surface films on the bundle, allowing a strong metallurgical bond to occur without melting the material.



Wire Splicer Operating Sequence

A sequence of weld protocols can be selected in the micro-processor so that a wire harness can be welded in sequence without resetting the parameters. The weld can be made to a preset height or can be controlled by time or energy.

The wires are compressed between the ultrasonic lower welding tip, the jaws, and the upper tip. The upper tip descends, the ultrasonic energy welds the wires, the upper tip raises, the jaws retract, and the welded bundle can be removed. The next bundle can then be placed in the jaws.

Specifications

Power Requirements	110/220 volts, 50/60 Hz, 20 amps
Output Power	1500 watts/2500 watts
Operating Frequency	20 khz nominal
Air Requirements	Clean and dry at 80-100 psi, 2 SCFM
Max. Force on Wire	600 lbs. @ 100 psig
Weld Timer Range	0.01 to 4 seconds
Welding Tips	Interchangeable taper lock type, heat-treated tool steel

Ordering Information

	1500 watts	2500 watts
<i>Welding Head</i>	WS2016	WS2026
<i>Power Supply</i>	FC2016	FC2026

Specifications are provided for information only and are believed to be accurate. However, no responsibility is assumed by Sonobond Ultrasonics for their use. Ongoing product development and improvement may cause changes without notice.

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