

BRANSON



Ultrasonic Metal Welding

Better solutions for non-ferrous
welding challenges



*Branson High-Performance
Ultrasonic Systems Are Serving the
Metal Welding Needs of the
Worldwide Industrial Community.*

From its pioneering days in the development of ultrasonic welding, Branson has been applying the benefits of this superior welding technology to an ever-expanding range of applications. Clean, fast and cost-efficient Branson systems produce highly stable, better quality bonds able to withstand the harshest environmental conditions and meet the most critical performance needs.

A Global Partner Committed to Your Success

Whether you manufacture in a single site or in multiple locations around the world, Branson has the global resources to meet your metal welding needs. We can provide the assistance you require anytime, anywhere. With a close collaboration from application consultation to engineering assistance to complete operator training, we will get you up and running quickly. Branson's commitment to customer satisfaction continues long after the installation with unequaled technical support that includes troubleshooting, parts replacement, technical updates, preventative maintenance and repair services.

Ultrasonic Metal Welding

Unmatched Application Experience

Branson application breakthroughs include the first successful ultrasonic equipment to splice electrical cables for wire harnesses, and welding batteries such as those used for the Mars rover. Branson continues to lead the industry with innovative new products that ensure reliability, minimal maintenance, a superior end product and low cost per weld. All systems are easily integrated into a variety of production setups, whether manual, semi- or fully-automated.



A Global Network of Applications Labs

Branson has a network of metal welding applications laboratories strategically located throughout the world. Through feasibility testing, prototype development and production cost assessment, Branson's engineers will thoroughly evaluate your needs and provide the ultrasonic process that meets or exceeds your welding parameters.



Advanced Ultrasonic Systems Designed for a Range of Metal Welding Needs

Spot Welding and Wire Termination Systems

Branson's spot welding systems are extremely robust machines designed to handle a range of non-ferrous welding applications, including precise welding of smaller gauge metals and delicate assemblies. They provide the highest degree of reliability and weld quality, and they are particularly well suited for automation to maximize throughput.

The *Ultraweld L20*® is a highly rugged, easy-to-use system. It's precision built and easily tooled to provide the utmost reliability and weld accuracy for a wide range of welding applications. The *Ultraweld MWX 100*® is the most versatile spot welder available,



providing the highest levels of flexibility, efficiency and economy. With a choice of actuator configurations, quick-change modular tooling and multifrequency operation, the unit can be configured to perform the work of 18 different welders.

Applications include wind power motor windings, implantable pacemaker capacitors, air bag assemblies, ABS brake systems, electrical vehicle and rechargeable batteries, and photovoltaic cells.



Continuous Seam Welding Systems

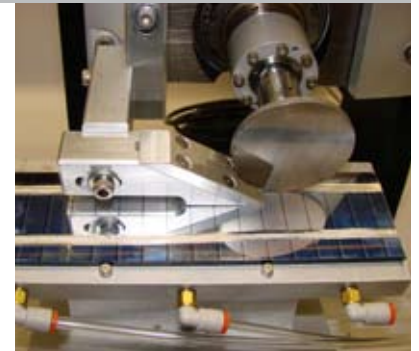
Branson's continuous seam welding systems provide a continuous-feed welding process with no limits to material length or width. Systems are electronically adjustable to enable welding of a range of materials and thicknesses at different operating speeds. Ultraseam welding is easily automated for greater cost and production efficiencies.

The Ultraseam systems are designed to maintain the highest levels of quality, performance and efficiency. They are ideal for continuous welding of aluminum and copper foils at speeds up to 22 meters per minute.

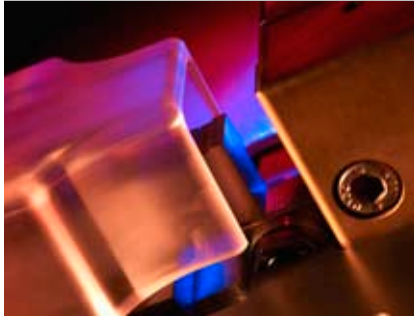


Welding variables can be precisely monitored and controlled to provide consistent results. The extremely versatile Ultraseam systems, when operated at 20, 30, 40 or 60kHz, function as a high-precision continuous seam welding system. They are the perfect machines for facilities that can benefit from the systems' flexible and space-saving design.

Applications include continuous welding of aluminum and copper foils, battery anode/cathode tabbing, continuous tube welding, and solar panels.



Wire Splicing Systems



Ultrasplice systems ensure precision splicing of non-ferrous wires in a wide range of sizes. Ultrasonic splicing results in a superior electrical connection over crimping, soldering or resistance welding and offers savings in power consumption, elimination of consumables and long tool life.

The Ultrasplice WSX 20kHz system is engineered to provide a full-range ultrasonic splicing system capable of splicing from 0.35 to 40mm² wire.

The system uses a retractable anvil and automatic sequencing to produce the full range of required splices and incorporates Branson's replaceable tip technology for maximum tool life at minimal cost. The *Ultrasplice 40®* system is a portable 40kHz ultrasonic wire splicing system that can produce wire splices up to 6mm² in cross section using an advanced 800 watt power supply. It can weld through enamel insulated magnet wire as well as disperse surface oxides and contaminants, producing high-quality electrical connections in a single operation.

Applications include automotive and appliance wire harnesses, motor brushes, component assemblies, and braid wire tipping.



Tube Sealers



Ultraseal ultrasonic systems hermetically seal copper and aluminum tubes. A one-step operation crimps, seals and cuts off charged tubes in under one second. Systems are suited to automation for high levels of efficiency and productivity.

The *Ultraseal 20® EX* is a 20kHz portable ultrasonic metal tube sealer specifically designed for explosive environments and can seal copper tubes up to 12mm in diameter. Its precise controls ensure consistent seals and are not operator-dependent, unlike alternative brazing processes.

Applications include sealing charged tubes used in refrigerators, air conditioners and bulb temperature sensors, as well as capillary tubes.



Markets and Applications

Branson ultrasonic metal welders are used in the manufacture of a wide range of products essential to the automotive, appliance, aerospace, battery, electric, electronics, air conditioning, refrigeration, medical and solar energy industries.



Aerospace

- Batteries
- Antennas
- Cooling tubes



Appliance

- Heat exchanger systems
- Compressors
- Harnesses
- RTD (Resistive Thermal Device)



Automotive

- Clock spring assemblies
- Air bag systems
- Wiring harnesses
- EV batteries
- Wire termination
- Slip rings

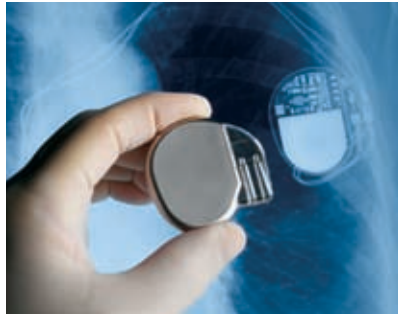
The Future Is Bright for Ultrasonic Welding

A number of factors are driving the rapid acceptance of ultrasonic metal welding. Ultrasonic welding produces a better product, and the technology is inherently eco-friendly. It's a highly energy efficient process requiring less than 1/30th of the energy of resistance welding, and it eliminates the need for added materials or contaminants such as flux agents, solder, solvents, or crimp connectors.



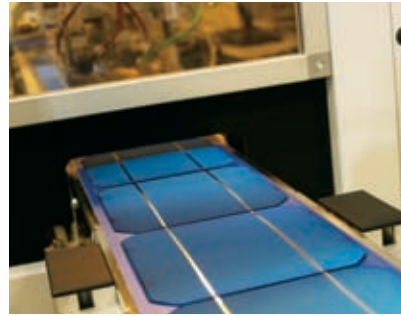
Electrical/Electronics

- Capacitors
- Cell phone batteries
- Wire termination
- Circuit breakers
- Smart cards
- Electronic sensors
- Motors



Medical

- Prostate remover
- Pacemaker battery



Power

- Solar panels
- EV batteries

In addition, advances in metals technology are producing thinner and lighter metal foils and wire for use in sensitive electronics and other products. Ultrasonic metal welding can satisfy the clean and delicate requirements of these applications, whereas traditional welding methods may be much too destructive. Ultrasonic welding also meets the reliability demands of larger, heavy-duty applications such as charging systems for electric vehicles, wind power towers and solar energy systems.

Global Technologies. Local Solutions.

Branson's unmatched global resources ensure optimal solutions for the most challenging metal welding applications.

With 1600+ employees in over 70 sites worldwide, we can rapidly respond to our customers' needs, wherever they are located.

Branson understands local markets and regulations, and the open collaboration among our global offices and extensive staff of application specialists quickly produces solutions for customers. We partner with companies of every size and scope to help resolve critical issues ranging from market changes, product

quality/life cycles and production costs, to employee safety and environmental compliance.

And, Branson's commitment to the publicly funded industrial collective research initiative and cooperation with various research centers have produced widespread innovations in metal welding technology that are benefiting companies everywhere.

Branson is a leading innovator in the Industrial Automation division of Emerson, a diversified global manufacturing and technology company. Emerson is a progressive company working to develop products and processes to resolve global issues, including energy supply and distribution, infor-

mation and networking, climate and environment, manufacturing efficiency, and product performance. Emerson is dedicated to the pursuit of breakthrough technology developments never before envisioned.

Branson brings exceptional quality, fast delivery and competitive prices. Contact your nearest regional center today.

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