

## Automatic Ultrasonic Welder



*Latest Ultrasonic Interconnect Technology Solutions*

The Asterion™ UW ultrasonic welder is engineered with the latest architecture that includes a torsional ultrasonic system mounted on a highly reliable and fast direct-drive XY motion system. These systems along with the new robust pattern recognition capabilities and extremely tight process controls, delivering heightened productivity, bonding quality and accuracy at the fastest speed. The large bondable area enhances flexibility and reduces line integration cost making it an ideal solution for hybrid-automotive and power module applications.

### Performance

- The torsional ultrasonic system enables a deeper access to weld locations and has a wider clearance space compared to a longitudinal system
- Linear motors used for the X, Y motion system provides the highest UPH and accuracy
- Ball screw drive for the force and Z motion providing greater controlled force
- Deep Access Capability is achievable with the 150mm Z-stroke and 120mm vertical clearance around the sonotrode

### Automation

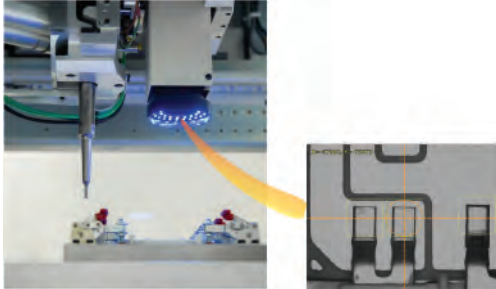
- The GEO Model pattern recognition system enables automatic placement of weldments, delivering higher UPH and lower MTBA
- Large weld area of 300mm x 255mm supports multiple device or multiple lane automated handler
- Large side access window of welder comes with handler communications for easy integration of third party system
- Integrated material handling system is available as an option which can be linked to production line and MES
- Cleaning station and barcode reader can be added to complete the solution

### Ease of Use

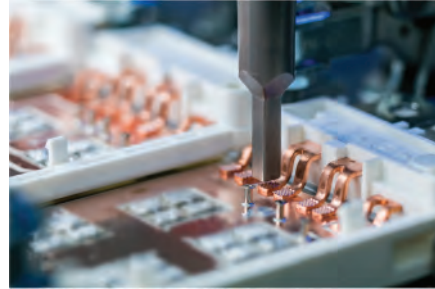
- Intuitive Graphical User Interface
- Highly secured interface allows multiple login levels and individually selectable access levels for feature-by-feature access control



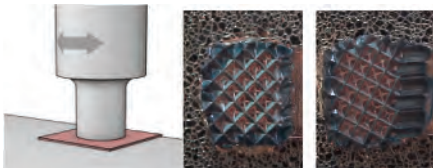
### Enhancements



High resolution Digital Camera provides a crisper image



Electronic Servo Drive Z-axis and direct drive system make high accuracy welding possible



Minimum spooling observed with torsional welding versus longitudinal welding on a same application



Robust PR (GS4) with Feature Find and Geometric Model modes developed for difficult patterns like direct bonded copper (DBC) substrates

### Specifications

Name	Asterion Ultrasonic Welder
Bonding Method	Ultrasonic Bonding Method
Weld Area	300mm(x) x 255mm(y)
Z- Axis Travel	150mm
X, Y Axes: Motion System	Linear Motor, 0.1µm Resolution
Output	1200W
Frequency	20kHz
Oscillation Mode	Torsional
Terminal Size	0.5mm to 1.5mm Thick
Weld Area	5mm² to 25mm²
Weld to Weld Time	<1s
Pattern Recognition	GEO-Model
Operation System	Window Base
Force Method	Servo Motor
Force Range	50N to 1500N
Bond Force Accuracy	+/-3% over the Range
Power Requirements	180-240VAC, Single Phase 50/60Hz, 4.0kVa
Dimension	683mm(w) x 1500mm(d) x 2000mm(h)
Weight	770kg

### Options

- SECS-GEM option enables factory automation and communication
- Vacuum monitoring kit
- Power offset capability