



## AMADA WELD TECH



# Solutions

Define | Design | Deliver

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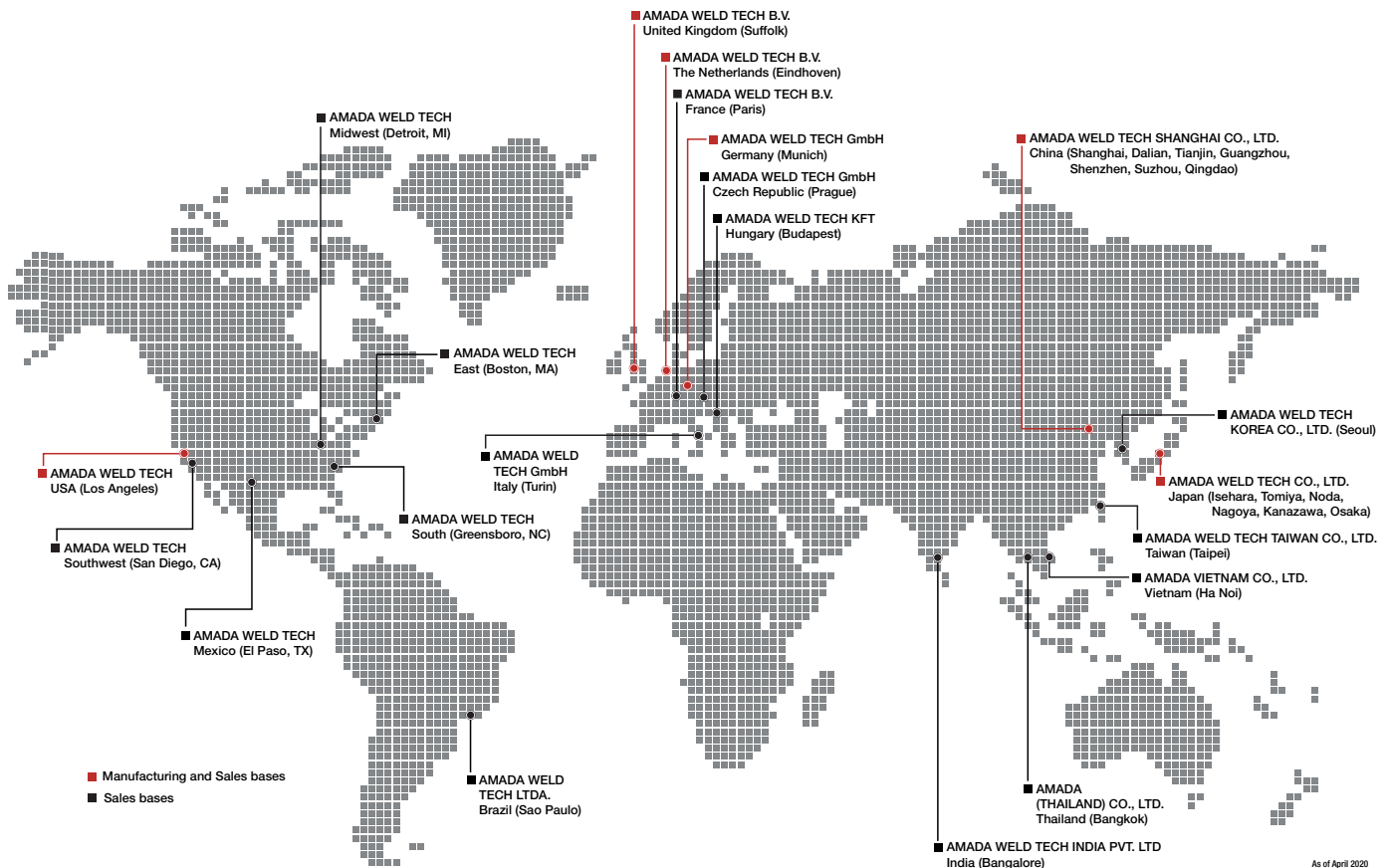
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# AMADA WELD TECH Company Profile

AMADA WELD TECH is a leading manufacturer of equipment and systems for resistance welding, laser welding, laser marking, laser cutting, laser micromachining, hermetic sealing, projection welding, and hot bar soldering and bonding. The company provides products to a wide range of markets, including the medical device, battery, electric vehicle and solar industries, as well as global electronics, automotive and general industrial markets.

Since 1948, AMADA WELD TECH has worked to achieve one goal: to solve our customer's manufacturing challenges. Knowing there is no one solution that fits all, we strive to provide our customers with innovative and reliable manufacturing technology solutions so that we may be their single source provider.

Our headquarters is located in Monrovia, California with state-of-the-art facilities for developing, producing and servicing the solutions offered to our worldwide customer base. A global company, AMADA WELD TECH also has sales offices and applications laboratories located in Detroit, Michigan; El Paso, Texas; and Sao Paulo, Brazil.

## Company timeline

- 1948** Unitek Corporation founded in Pasadena, CA to manufacture orthodontic appliances.
- 1950** Weldmatic Division organized; produced a complete line of electronically operated resistance welders for missile, aircraft, electronics, and metal working industries.

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- 1965** Moved into current Headquarters location in Monrovia, CA.
- 1971** Unitek Equipment Division established.
- 1978** Unitek Corporation acquired by Bristol Myers Squibb. Development and patent of force firing systems critical to small parts welding.

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- 1987** Unitek Corporation acquired by 3M.
- 1988** Divested from 3M as Unitek Equipment Division of KVA Holdings Corp.

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- 1991** Name changed to Unitek Equipment Inc.
- 1994** Acquired by Miyachi Technos and reorganized as Unitek Miyachi Corporation with merger of Miyachi America Company.
- 1994** Established Integrated Systems division
- 1995** Acquired Weld-Equip companies in Holland, Germany and France, and Miyachi Technos Europe in Germany.
- 1995** Received ISO 9001 Certification.

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- 2000** Acquired Peco Welding Systems, GmbH.
- 2001** Acquired Benchmark International, Inc.
- 2005** Renamed Miyachi Unitek Corporation, consolidated Benchmark International to California.
- 2008** Reorganized European companies into single entity: Miyachi Europe Corporation.

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- 2010** Opened applications lab in Detroit, MI.
- 2011** Opened sales office and applications lab in Brazil.
- 2013** Miyachi Corporation acquired by AMADA CO., LTD.
- 2014** Renamed Miyachi America Corporation.
- 2015** Reorganized as Amada Miyachi America, Inc.

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- 2020** Renamed AMADA WELD TECH INC.



## Key Markets

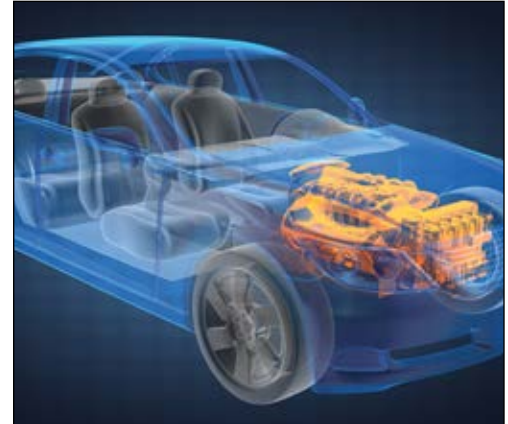
### Automotive

Automotive applications require across-the-board manufacturing technologies including resistance and laser welding, projection welding, hermetic sealing, and hot bar reflow soldering. AMADA WELD TECH's best in class products provide process stability with power feedback and monitoring options, as well as industrially proven reliability.

Part tracking and traceability has become a reality of modern manufacturing. AMADA WELD TECH also offers a range of laser marking and engraving products for direct part marking with text, graphics, bar codes and data matrix codes.

Our technologies are used in a wide variety of automotive applications including sensors, switches, dashboard electronics, lighting components, brake shoes, and more.

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### Medical

The challenges of today's medical device manufacturing applications - small, single-use devices in high demand with ever-increasing reliability requirements - are pushing the need for more sophisticated manufacturing technologies, and AMADA WELD TECH, in consult with medical device industry expert customers, is leading the way with our comprehensive range of technologies. Our equipment is used in medical device manufacturing facilities around the world to build medical device components for cardiology, neurology, laparoscopy, arthroscopy, oncology, wound closure, and more.

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### Electronic Components

The fine control featured in AMADA WELD TECH's resistance and laser welding technologies is well suited to electronic component manufacturing applications requiring precision, low heat input, and low (or no) force welding solutions.

The high speed, non-contact clean laser marking or laser engraving process is well suited to high quality direct part marking on ever decreasing component sizes.

Common applications include hard drive read/write armatures, hard disk assemblies, electrical connectors, lead frame assemblies, relay terminal connections, batteries, and more.



## Batteries

There are many process requirements in battery manufacturing. Depending on the size, type, and capacity, these requirements include both internal and tab-to-terminal connections, can and fill plug sealing, and external connections. Several joining options may be considered including both resistance spot and laser welding. The decision to use one technology or the other is determined both by the type of weld required and production requirements.

Laser marking is also used for branding and serialization. AMADA WELD TECH has extensive experience welding and marking batteries including Lithium Ion, Nickel-Metal Hydride, Lead Acid, Nickel-Cadmium and Alkaline in all sizes.



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## Aerospace

Our aerospace manufacturing customers produce a variety of high technology parts for aircraft/aircraft engines, guided missiles, spacecrafts, propulsion units, and more including batteries, sensors, hybrid packages displays, and jet engine honeycomb manufacture and repair.

AMADA WELD TECH laser welding, laser marking, resistance welding, hermetic sealing and hot bar reflow soldering equipment is uniquely suited to these applications and has been used in the manufacture of aerospace parts for more than 60 years. Precision control, closed-loop feedback, and weld quality tools ensure reliable and durable welds and marks for these demanding applications.



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## ... and more

- Automation
- Consumer Electronics
- Contract Manufacturing
- Defense
- Energy/Utilities
- Heating Elements
- Home Appliance
- Lighting
- Motors & Coils
- Photonics
- Semiconductors
- Sensors
- Solar
- Tools
- Universities/Research



## Define - Design - Deliver

AMADA WELD TECH's broad range of technologies, products, and systems makes it possible for us to provide complete solutions for both simple and complex manufacturing challenges. The path to solving even your most difficult materials processing needs begins with our technical sales experts. Working with our applications engineers, our broad, experienced team offers insightful feedback on process

feasibility and part design to maximize production reliability. Application/sample qualification in our labs helps you determine the best choice of equipment for a robust, production-ready process. If a system is needed, our team of system engineers with expertise in motion, tooling, vision and software deliver smart and innovative solutions tailored to functional requirements and budget. Define - Design - Deliver.



## Technologies at a glance

### Resistance Welding

Resistance welding is a thermo-electric process in which heat is generated at the interface of the parts to be joined by passing an electrical current through electrodes and to the parts for a precisely controlled time and under a controlled pressure (force). Very small heat affected zones and very light forces are possible. This process is suitable for metal joining applications from fine wires to sheet metal.

### Micro TIG Welding

Micro TIG (tungsten inert gas) welding, also known as gas tungsten arc welding (GTAW), is an arc welding process that utilizes a constant current welding power supply to generate an electric arc between the tungsten electrode and the workpiece, using the resultant heat to create the weld. Micro TIG welding is a non-contact process and produces high quality welds with minimal heat affected zone. Micro TIG welding is suitable for welding both conductive and dissimilar metals and is perfect for welding small components.

### Laser Welding

Laser welding is a non contact, single sided process suitable for welding a wide range of joint geometries and materials. Advantages include being low heat input, tailored weld dimensions, and high speeds. AMADA WELD TECH offers laser welding system solutions capable of welding 10 micron thick foils to 0.25" thick metal automotive drive train parts, as well as plastic joining. The laser offers a highly flexible heating source that can be precisely controlled, and easily adapted to many different system integration motion platforms and manufacturing environments.

### Laser Marking

Laser Marking is achieved when focused light from a laser interacts with a material to produce a high quality permanent mark. AMADA WELD TECH's laser markers are capable of marking alphanumeric characters, bar-codes, 2D matrix codes, serial numbers, logos and graphics on a variety of materials including metals, semiconductors, plastics, ceramics and other materials.

### Laser Cutting

Lasers are well suited to cutting as they offer high cut quality and high dimensional accuracy. Because lasers are a non-contact manufacturing solution, they are able to process mechanically delicate parts such as medical stents. A variety of laser sources including Yb: fiber and ultra fast technology, can be used according to the application. Each offers a unique processing capability. For example, femtosecond ultra fast lasers are able to cut both metals and plastics with no heat input into the part and provide burr free cuts even in materials such as nitinol. With focused spot sizes down to 10 microns and integration into micron accuracy motion platform laser cutting provides the ultimate precision cutting technology.

### Hermetic Sealing

Synonymous to microelectronic packaging, hermetic sealing is a welding process performed in a controlled dry environment intended to encapsulate and protect moisture sensitive devices into a leak tight package preventing dry process gas in the package from escaping or harsh ambient atmosphere from entering and contaminating the device inside the package.

A microelectronic package typically has a base where the electronic device is nested and is covered by a welded lid or cap. The cover is attached to the base creating a hermetic seal using a resistance or laser welder fully integrated into a glovebox.

### Hot Bar Reflow Soldering & Bonding

Hot bar reflow soldering and bonding is a process which uses a thermode (or "hot bar") which, through a closed-loop controlled process is very quickly heated and cooled creating an electrical interconnection between the parts being joined. This technology can be applied to making several different types of bonds including ACF bonding and heat staking.

Hot bar bonding techniques are reproducible, quantifiable, and traceable to quality standards such as ISO / NIST. Typical applications include connecting flex-foils to printed circuit boards (PCB) or LCD glass-panels, wires, coax cables and many other materials such as a very light or small components.

### Systems

AMADA WELD TECH's broad range of technologies, products, and systems makes it possible for us to provide complete solutions for both simple and complex manufacturing challenges. The path to solving even your most difficult materials processing needs begins with our technical sales experts. Working with our applications engineers, our broad, experienced team offers insightful feedback on process feasibility and part design to maximize production reliability. Application/sample qualification in our labs helps you determine the best choice of equipment for a robust, production-ready process. If a system is needed, our team of system engineers with expertise in motion, tooling, vision and software deliver smart and innovative solutions tailored to functional requirements and budget. Define - Design - Deliver.

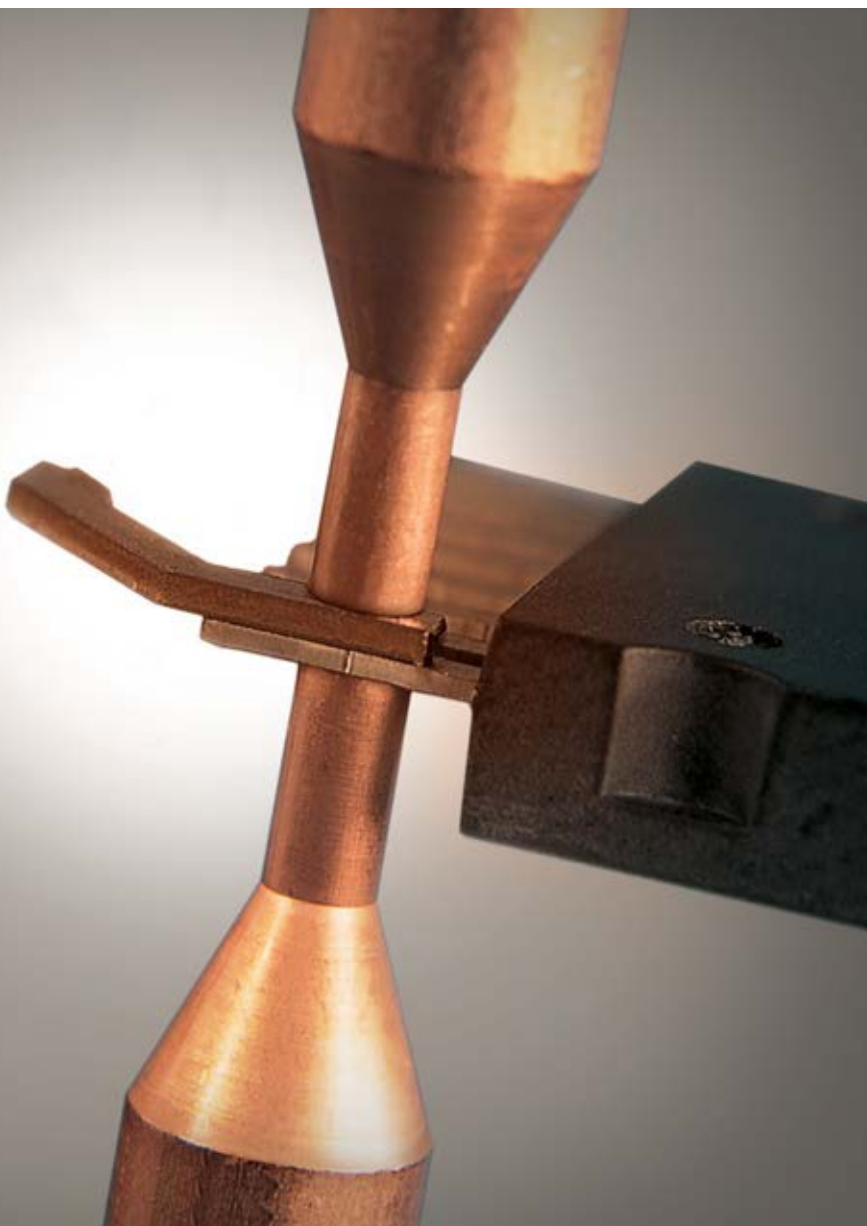
## Resistance Welding

AMADA WELD TECH offers a full range of resistance welding equipment including spot welding power supplies, heads, weld quality monitors and weld checkers.

- Power supply technologies: high frequency inverter, linear DC, capacitive discharge and AC
- Weld head technologies: electromagnetic, motorized, pneumatic, manual
- Weld quality monitors and weld checkers
- System solutions including tooling, vision, motion, optics and monitoring all delivered with a guaranteed application

### CAPABILITY

- Weld most metals
- Thermocompression bonding
- Implantable medical device assembly
- Fine wire welding
- Battery assembly
- Electronics assembly
- Coil welding
- Stud welding
- Sheet metal welding
- Motor fusing
- Seat Belt anchors
- Air bag initiators
- Car batteries



### TYPICAL APPLICATIONS



Spot welding pacemaker



Thermocompression bonding coil wire to terminal



Parallel gap spot welding of coin cell tabs



Projection welding radiator connector



Resistance welding motor coil



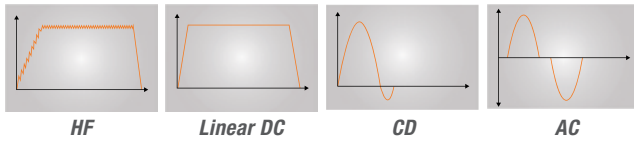
Spot welding wire to coil



## Spot Welding Power Supplies

- Closed-loop and open loop models
- Technologies offered: high frequency inverter, linear DC, capacitive discharge (CD) and AC
- 5-200,000 amps output power

Wave forms



HF-2700A High Frequency Inverter IS-800CA Mid-Frequency Inverter

## Weld Quality Monitors & Checkers

- Handheld and desktop units
- Measure current, voltage, time and displacement

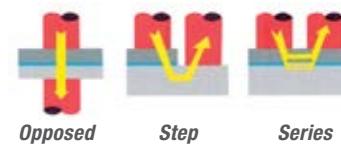


Weld Monitors & Checkers

## Weld Heads

- Electronic, pneumatic or manual actuation
- Single operator benchtop operation, or integrated for automation
- 0.39 - 1800 lbs force

Electrode configurations



TL-080B-EZ Weld Head

SL-320A Low Force Electronic Weld Head

## Resistance Welding Systems

- Standard and custom systems
- Integrated PLC to control operation of electronics, motion, power supply, gas, and other peripherals.

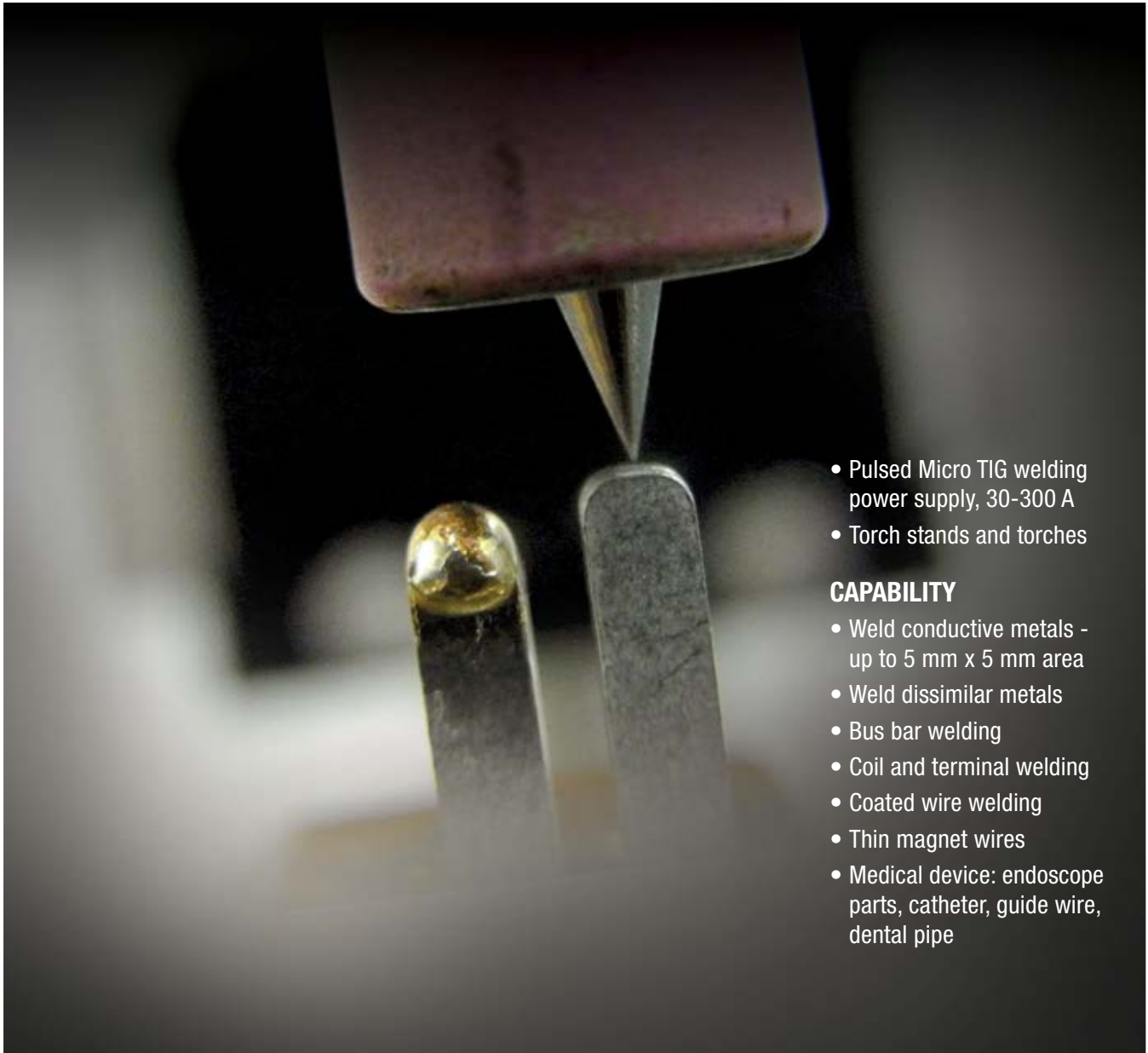


Resistance Welding System for Automotive Industry

AWS 3 Active Welding System

## Micro TIG Welding

*AMADA WELD TECH offers precision arc welding power supplies and accessories for welding a range of metals. This fusion welding process is an excellent method to weld copper and also excels in welding dissimilar materials.*



- Pulsed Micro TIG welding power supply, 30-300 A
- Torch stands and torches

### CAPABILITY

- Weld conductive metals - up to 5 mm x 5 mm area
- Weld dissimilar metals
- Bus bar welding
- Coil and terminal welding
- Coated wire welding
- Thin magnet wires
- Medical device: endoscope parts, catheter, guide wire, dental pipe

### TYPICAL APPLICATIONS



Micro TIG welding bus bars



Micro TIG welding prongs



Micro TIG welding bus bars



Micro TIG welding copper wire to bars



Micro TIG welding magnet wire



Micro TIG welding motor coil

## Micro TIG Welding Power Supplies

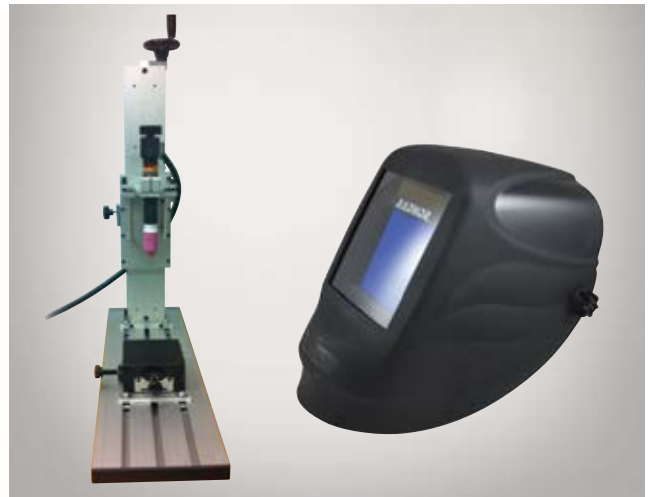
- 5 to 50 A or 30-300 A output power
- “Pulsation” feature significantly reduces porosity
- “Touch start” feature controls and identifies weld location
- Digital programming interface for easy control of pulse form
- Multiple weld schedules can be stored and recalled
- Integration into production lines



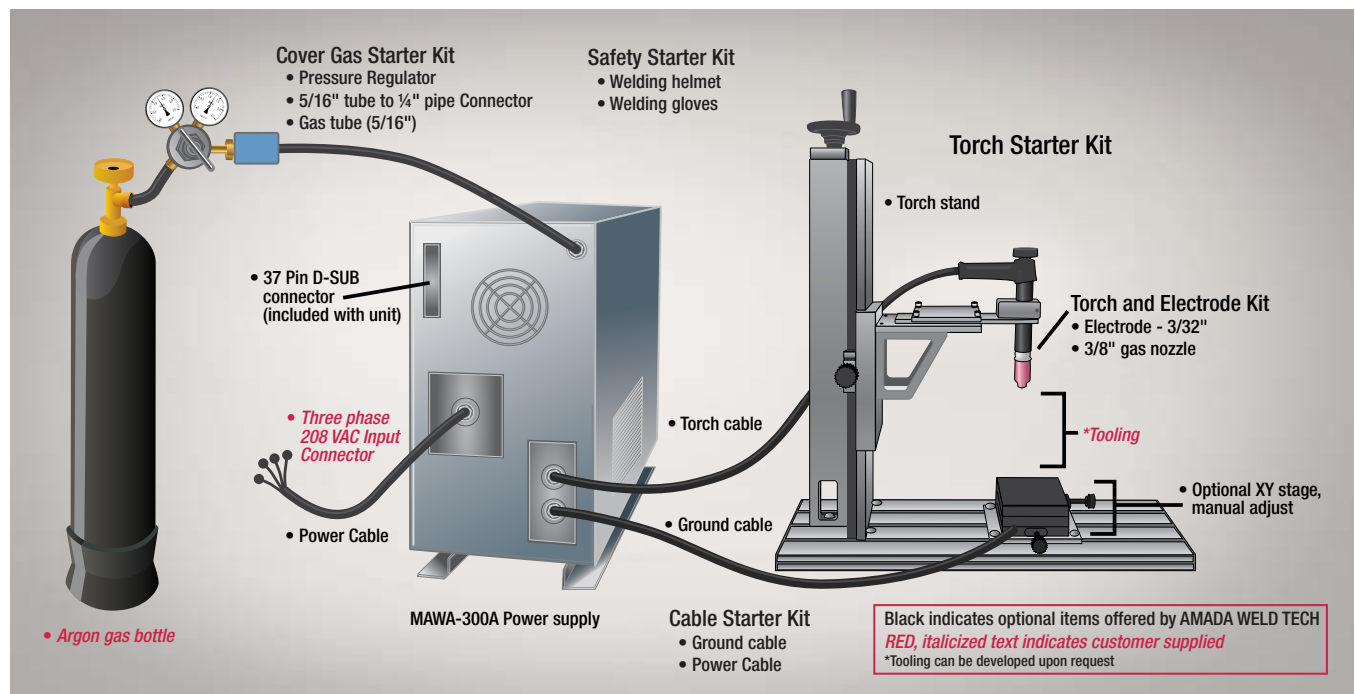
MAWA-300B Pulsed Micro TIG welder

## Torches & Accessories

- Torches and automated and manual torchstands
- Lanthanted tungsten electrodes
- Various diameter gas nozzles for coverage optimization
- Cables - power and torch cables
- Safety equipment



## Generic Setup



## Laser Welding

Lasers produce a beam of high-intensity light which, when focused into a single spot, provides a concentrated heat source, allowing narrow, deep welds and fast welding speeds. The process is frequently used in high volume applications, such as in the automotive and medical industry.

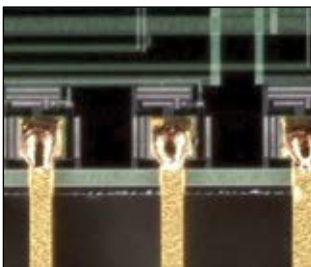


- Fiber and Nd:YAG lasers
- Standard and integrated system solutions including tooling, vision, motion, optics and monitoring all delivered with a guaranteed application

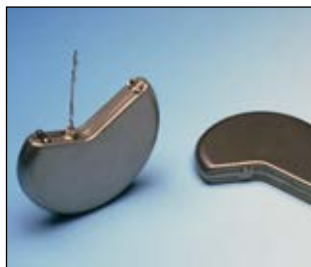
### CAPABILITY

- Weld metals and plastics, dissimilar materials and thin foils
- Implantable device seam sealing
- Tool assembly
- Catheter assembly
- Battery manufacture
- Automotive sensors and assemblies

### TYPICAL APPLICATIONS



Laser welding semiconductor connections



Laser seam welding pacemakers



Laser spot welding disk drive arms



Laser welding device assembly

## Laser Welders

- Yb: fiber and Nd:YAG technologies
- 1070 nm, 532 nm (green) and 1064 nm operating wavelengths
- 0.25 W - 1 kW output energy power
- Real time power feedback
- Pulse shaping
- Ramp up and ramp down
- Energy and time share options



Fiber Laser Welder

Nd:YAG Laser Welder

## Optics

- Range of focus heads to adapt spot size to meet application demand
- Collimators
- Focusing optics; CCTV, straight and inline configurations
- Fiber beam delivery (pulsed Nd:YAG) for flexible equipment positioning
- In-line camera systems with cross hair generators



Focus Heads

Fibers

## Laser Welding Systems

- Standard and custom systems to meet production requirements
- CDRH class 1 eyesafe enclosures
- Position based firing in up to 5 axes of motion
- High-precision quick change tooling optional
- Integrated vision optional



Delta Series Laser Processing Workstations

Laser Welding Glovebox Systems

## Laser Marking

Laser marking is achieved when focused light from a laser interacts with a material to produce a high quality permanent mark. Laser marking is a non-contact process; it has no consumables, making it clean and energy-efficient. The mark is created using intuitive Windows®-based software through which control hardware steers the focused beam using two mirrors mounted on high speed precision motors. The software enables text, graphics, logos, barcodes and data matrix codes to be marked. Automation features enable part serialization, date coding, variable text inputs, remote programming, I/O control and many others.

- OEM pulsed fiber markers 10-100 W
- Standard benchtop, CDRH Class 1 marking workstations
- Custom integrated system solutions including tooling, vision, motion, optics

**CAPABILITY**

- Laser marking metals, plastics, and ceramics
- Processes: engraving, ablation, annealing, bleaching/foaming
- Advanced processes: cutting or welding of thin metals
- Direct part marking of medical devices
- Corrosion resistant marking of Stainless steel
- UDI marking to comply with FDA regulations
- Wire stripping
- Surface cleaning
- Surface roughening for increased adhesion

### TYPICAL APPLICATIONS



Laser marking on glass filled plastic



Laser marking on polished steel



Laser engraving on tool steel



Laser marking on a polycarbonate button

## Laser Markers

- Pulsed Yb: fiber lasers
- Single mode and multi-mode options
- Frequency range from 2 - 500 Hz
- 10 - 100 watts power
- Integrated motion controller for up to 4 axes of motion
- Multi-language software support



*Fiber Laser Marker*

## Standard Laser Marking Systems

- Compact design for benchtop operation
- Fast and precise motorized Z-axis
- Easy access to parts and tooling
- Large viewing window
- F-Theta 100 mm, 160 mm and 254 mm lens options
- Integrated with AMADA WELD TECH's industrially proven LM-F Fiber Laser Markers (10-100W)
- Optional rotary



*WL-100A (Laser Processing Workstation)*

## Custom Laser Marking Systems

- Fully integrated standard and custom systems
- Simple, intuitive software
- Motion and vision options
- Laser source selection including fiber, UV and CO<sub>2</sub>
- Barcode scanning for job load and mark verification

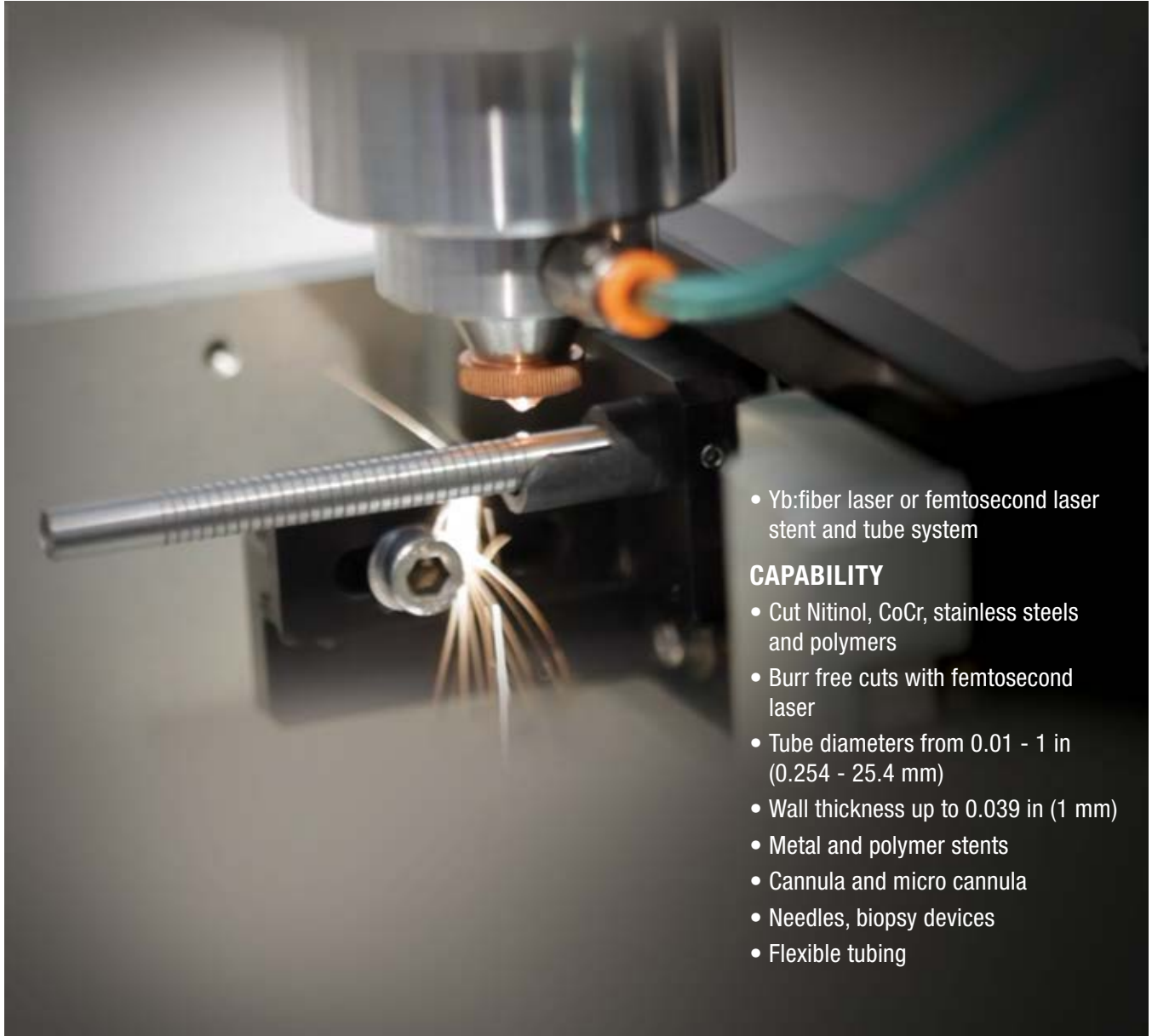


*Conveyor Fed Laser Marking System*

*High Precision Battery Marking Workstation*

## Laser Cutting

Manufacturers are continually looking for more reliable, faster and more cost effective manufacturing solutions to stay competitive in the global marketplace. One area where this need is especially prevalent is fine cutting or precision cutting of thin metals for medical, electronics and industrial applications.



- Yb: fiber laser or femtosecond laser stent and tube system

### CAPABILITY

- Cut Nitinol, CoCr, stainless steels and polymers
- Burr free cuts with femtosecond laser
- Tube diameters from 0.01 - 1 in (0.254 - 25.4 mm)
- Wall thickness up to 0.039 in (1 mm)
- Metal and polymer stents
- Cannula and micro cannula
- Needles, biopsy devices
- Flexible tubing

### TYPICAL APPLICATIONS



Laser cutting cannula tubing



Laser cutting flexible tubing



Laser cutting medical tool



Laser cutting needle



Laser cutting stents



Laser cutting polymer stent



## Laser Stent and Tube Cutters

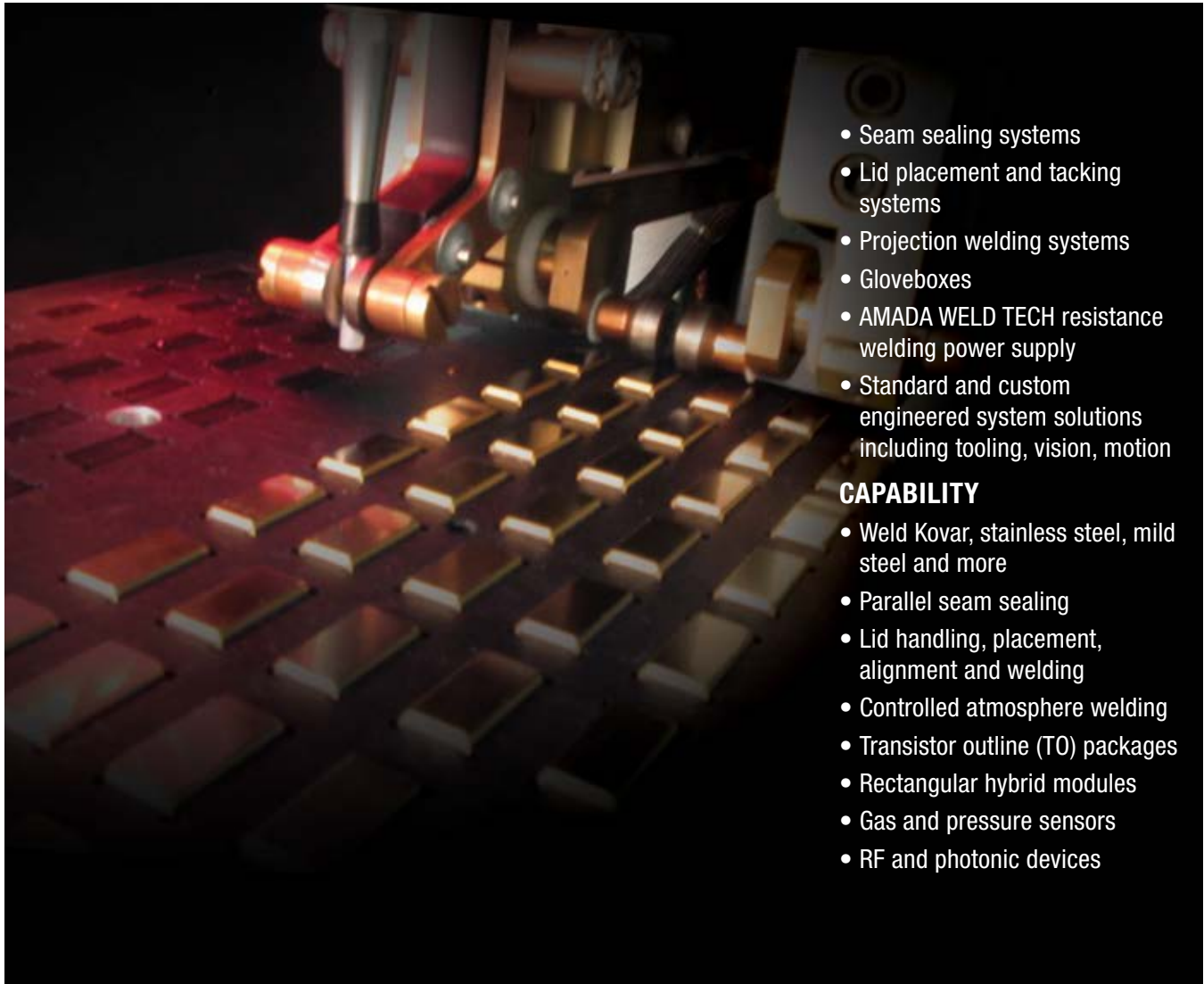
- 2, 3 and 4 axes motion options
- 0.01-1.0 in (0.254 - 25.4 mm) tube diameter capability
- Wet and dry cutting
- Automated tube feeder option
- Laser source options



*Sigma™ Laser Stent and Tube Cutter*

## Hermetic Sealing

Hermetic sealing is the process of encapsulating an electronic device in a metal can or ceramic package to protect it against ambient atmosphere. This can be achieved with either a resistance or laser seam welder integrated into a glovebox (atmospheric enclosure). The base of the package is placed in a fixture and the lid is positioned either manually or automatically onto it utilizing an integrated, vision assisted pick and place system. Once in place, the weld joint can be made; current is delivered across the roller electrodes through the lid using a series of overlapping weld spots resulting in a hermetic seam welded joint.



- Seam sealing systems
- Lid placement and tacking systems
- Projection welding systems
- Gloveboxes
- AMADA WELD TECH resistance welding power supply
- Standard and custom engineered system solutions including tooling, vision, motion

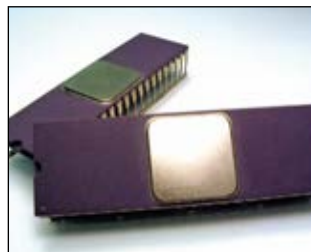
### CAPABILITY

- Weld Kovar, stainless steel, mild steel and more
- Parallel seam sealing
- Lid handling, placement, alignment and welding
- Controlled atmosphere welding
- Transistor outline (TO) packages
- Rectangular hybrid modules
- Gas and pressure sensors
- RF and photonic devices

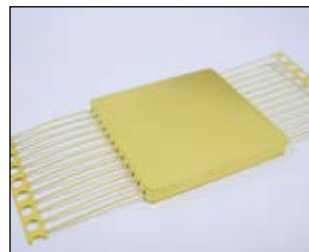
### TYPICAL APPLICATIONS



Projection welding small TO devices



Seam sealing semiconductor components



Hermetic sealing aerospace device



Seam welding circular electronic packaging

## Parallel Seam Sealers

- Manual load or automated lid placement models
- Programmable electrode force
- Current control
- Vision
- Integrated with AMADA WELD TECH welding power supplies



*SM-8500A Parallel Seam Sealing System*

*AF-8500A Lid Placement, Tack and Seam Sealing System*

## Projection Welders

- Models from 1000, 3000, 6000 and 9000 Joules
- AMADA WELD TECH capacitor discharge power supplies
- Full control over output power and force
- Robust dual post welding head
- No tool / quick change electrodes



*KN-200A Projection Weld Head*

## Gloveboxes

- Standard and custom systems
- Designed for integrated seam sealing, projection welding, laser or stand-alone use.
- Vacuum pumped bakeout oven
- Secure inter-locking doors
- Programmable logic
- Single and dual gas column purification systems
- Manual or computerized operation
- Integrated process gas analyzers for moisture, helium and oxygen



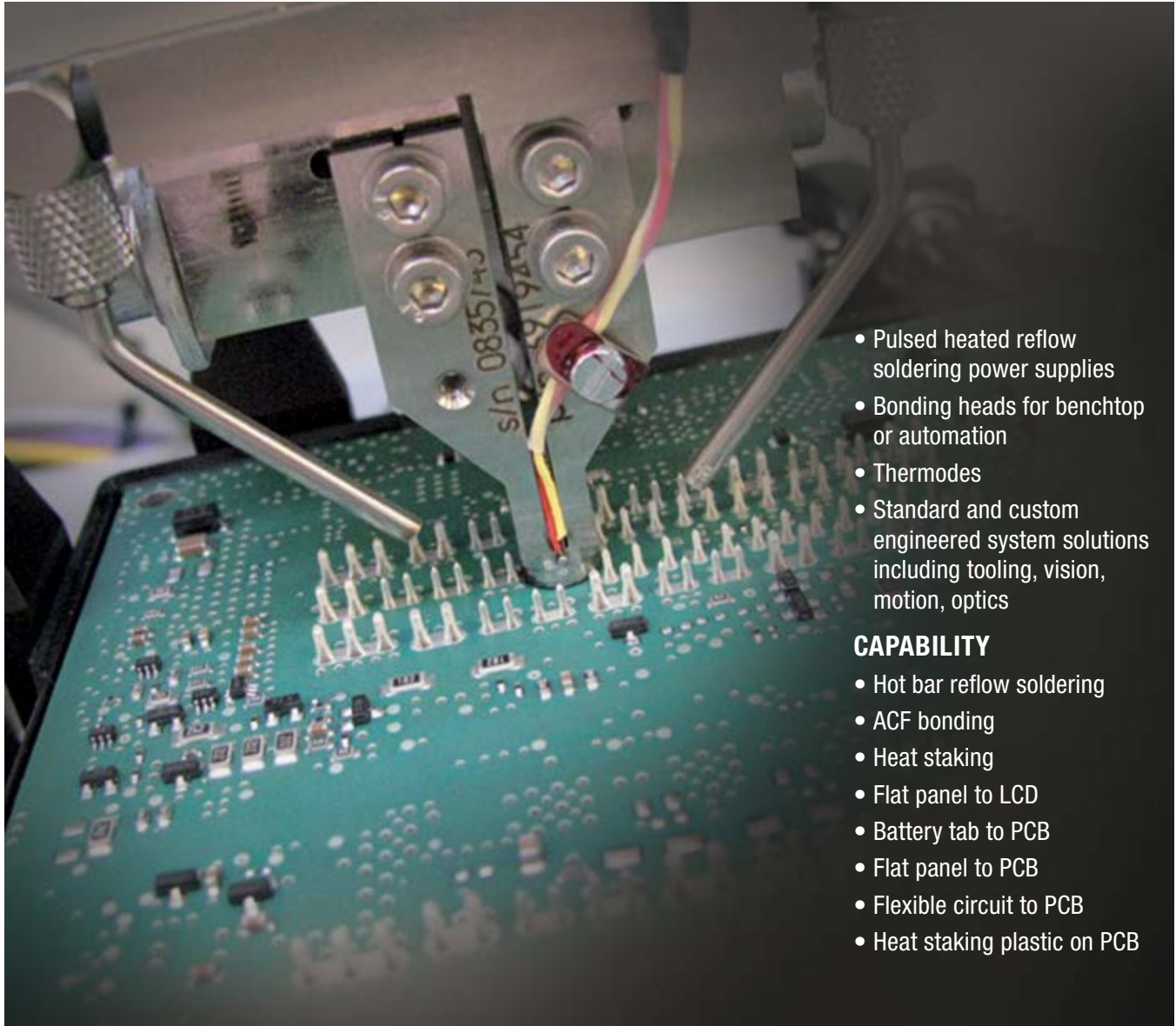
*Alpha Series Glovebox*

*MX2000 Modular Glovebox*

*AX5000 Advanced Glovebox*

## Hot Bar Reflow Soldering & Bonding

Hot bar technology is used to transfer a defined programmable heating curve into a dedicated area in order to create a electro-mechanical interconnection between one or more materials. Depending on material specifications, design of parts and required functionality of the end product, a specific Hot Bar process can be used.

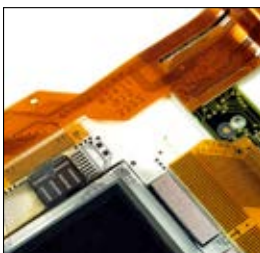


- Pulsed heated reflow soldering power supplies
- Bonding heads for benchtop or automation
- Thermodes
- Standard and custom engineered system solutions including tooling, vision, motion, optics

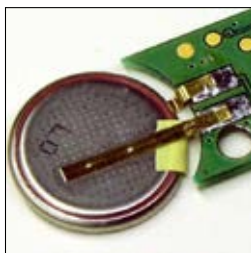
### CAPABILITY

- Hot bar reflow soldering
- ACF bonding
- Heat staking
- Flat panel to LCD
- Battery tab to PCB
- Flat panel to PCB
- Flexible circuit to PCB
- Heat staking plastic on PCB

### TYPICAL APPLICATIONS



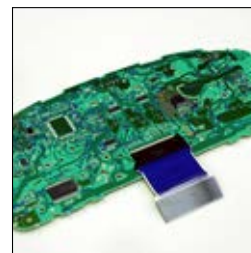
Heat seal bonding flat panel to LCD



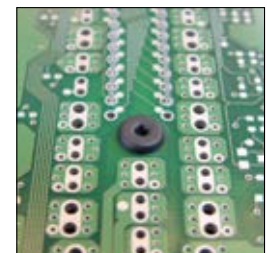
Reflow bonding battery tab to PCB



Reflow soldering display FPC to PCB



Heat seal bonding automotive dashboard



Heat staking plastic on PCB

## Pulsed Heat Reflow Soldering Power Supplies

- Hot bar reflow soldering, bonding, and heat staking
- Closed loop temperature and time control
- Remote programming
- Simple but comprehensive user interface
- Store 63 heating profiles
- Available with built-in or remote transformer



*UF-4000A Pulse Heated Reflow Soldering Power Supply*

*UF-R4000A Remote Pulse Heated Reflow Soldering Power Supply*

## Hot Bar Monitors

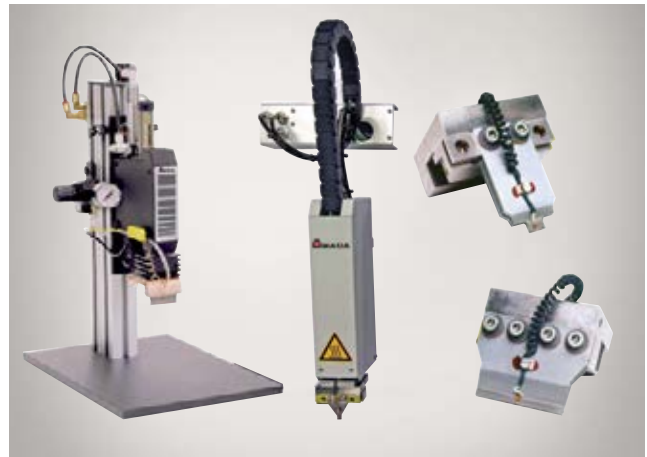
- Two independent measurement channels
- Oscilloscope functions with zoom and cursor nodes
- Full On-screen SPC Capability
- Integrated clock and date for weld reporting and traceability
- Up to 99 schedules with password protection
- Multiple language capability



*MG3 HBR Reflow Soldering and Bonding Monitor*

## Reflow Soldering & Bonding Heads

- Benchtop or automation modules
- 1.8 - 562 lbs force
- Adjustable force firing
- Air cooled
- Planarity adjustment
- Force and displacement sensors



*THIN-LINE™ TL-087B-EZ Mid Force Pneumatic Reflow Soldering Head*

*Bonding Head Module for Integration*

*Thermoplane Thermodes*

## Hot Bar Reflow Soldering Systems

- Standard and custom manual and automated systems for hot bar reflow soldering, ACF bonding, heat staking, and LCD repair
- Robust construction
- Linear or rotary motion
- Manual or pneumatic bonding head actuation
- X-Y coplanarity adjustment

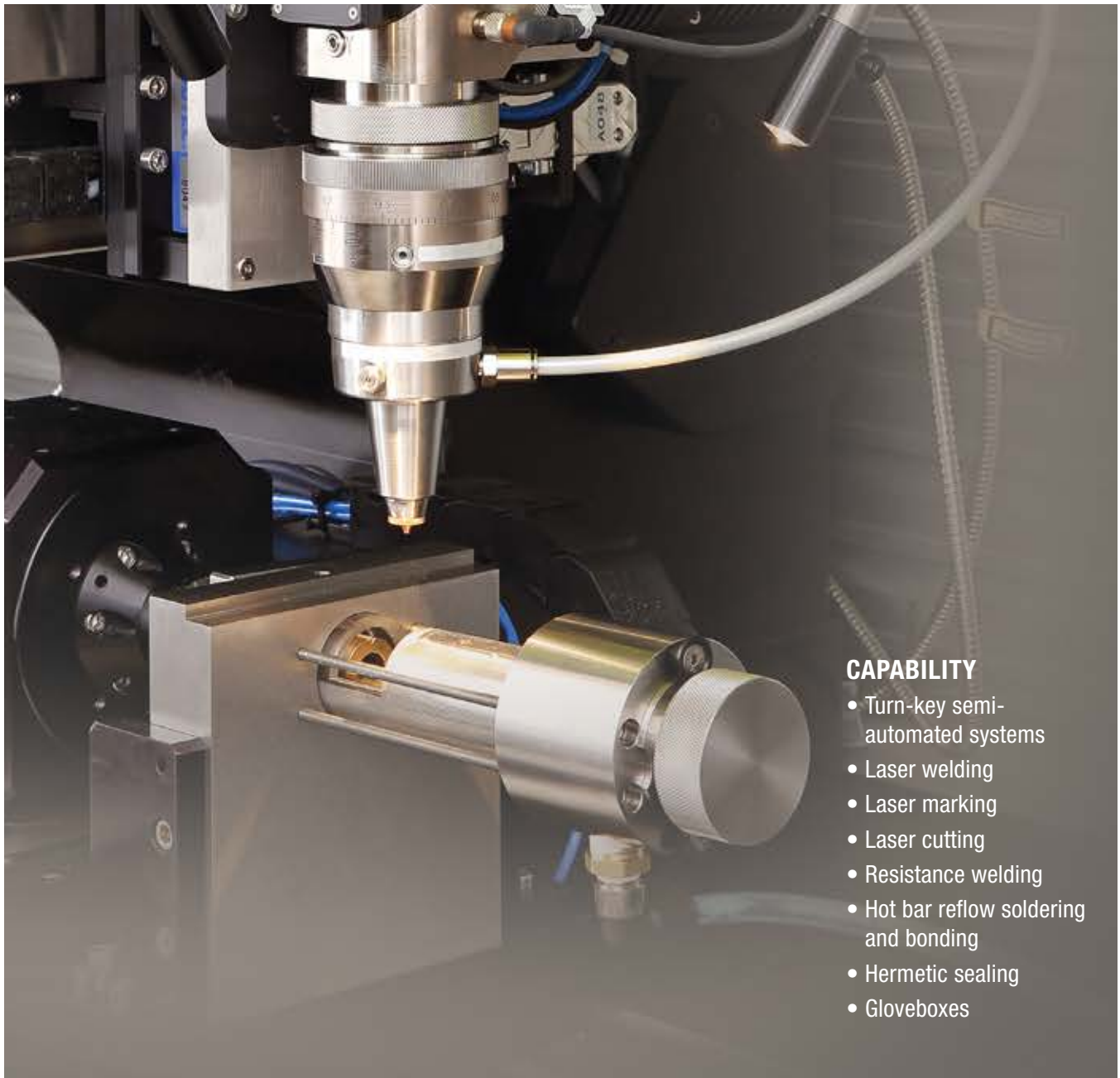


*Jupiter Panel Bonding System*

*newhorizon Hot Bar System for ACF Final Bonding*

## Systems

AMADA WELD TECH's broad range of technologies, products, and systems makes it possible for us to provide complete solutions for both simple and complex manufacturing challenges. The path to solving even your most difficult materials processing needs begins with our technical sales experts. Working with our applications engineers, our broad, experienced team offers insightful feedback on process feasibility and part design to maximize production reliability. Application/sample qualification in our labs helps you determine the best choice of equipment for a robust, production-ready process. If a system is needed, our team of system engineers with expertise in motion, tooling, vision and software deliver smart and innovative solutions tailored to functional requirements and budget. Define - Design - Deliver.



### CAPABILITY

- Turn-key semi-automated systems
- Laser welding
- Laser marking
- Laser cutting
- Resistance welding
- Hot bar reflow soldering and bonding
- Hermetic sealing
- Gloveboxes

Define | Design | Deliver

## Systems



*Resistance Welding System  
for Automotive Industry*

*Laser Welding Glovebox*

*Conveyor Fed Laser Marking  
System*

*Panel Display Bonding System*



### Enclosures

We offer a range of standard and custom enclosures according to the part shape, nesting area, internal space for other devices and available floor space.



### Tooling

Tooling is critical to the process and yield of any application. With many years of tooling design for parts processing, we have developed efficient and innovative designs to solve tooling challenges for welding, cutting, bonding, marking and micromachining. Modeling software is an essential part of this process, along with prototyping with production parts.



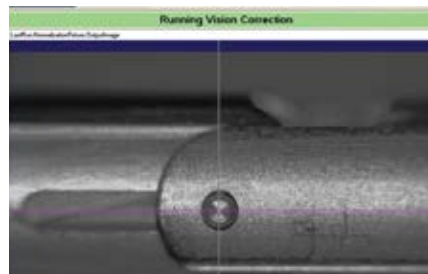
### Motion

There are many motion options according to the process that require high precision linear actuators, DC servo, scan heads, stepper motors and manual stages. Selecting the stages or combination of stages along with part orientation to the same provides optimal processing and minimizes motion complexity.



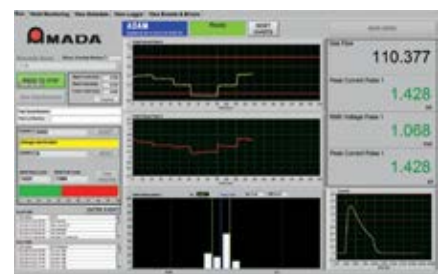
### Optics

Our extensive range of focus heads ensures that we will have one to fit your application: We offer heavy duty welding heads, galvo based heads, 3D scan heads and fine cutting heads. We can offer the best suited head for any size, shape or space consideration.



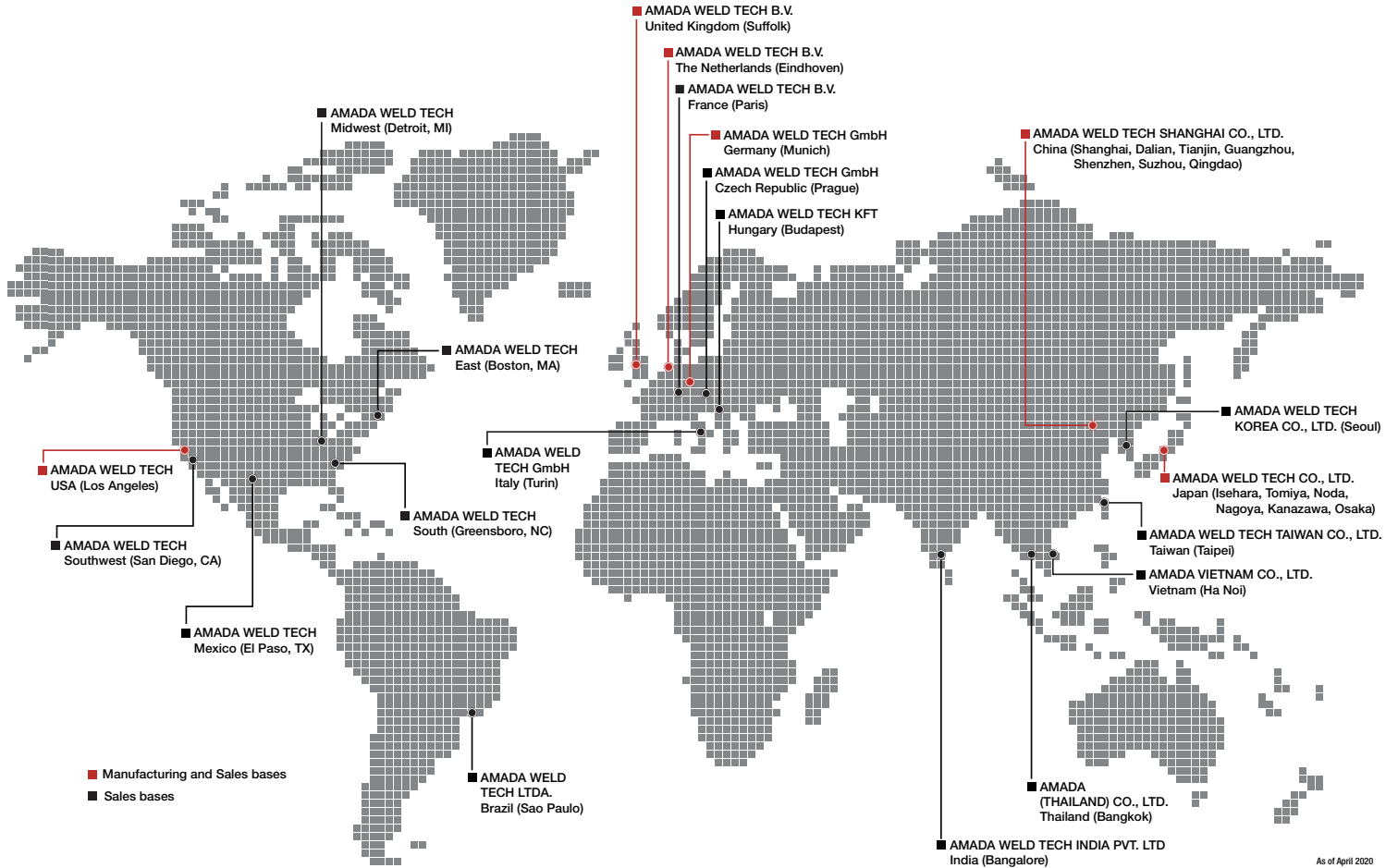
### Software

Control software provides the interface between the operator, the engineer, and the system, and therefore needs to be both intuitive and functional. Our motion hardware was specifically selected for stability and flexibility. Along with standard machine functionality, this enables unique operations such as vision based alignment and image capture, programming of virtual axes, and other custom requirements.



### Monitoring

All AMADA WELD TECH Nd:YAG lasers and most resistance welding power supplies feature closed-loop feedback that ensures the programmed weld schedule is always met. For certain critical applications, however, external monitoring may also be required to verify the delivery of power within programmed envelopes and can be added as an option.



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