Jupiter Advanced Laser Welding System

PC Controlled CNC Laser Welding Workstation

The Jupiter Advanced LW System is a series of Cartesian CNC workstations for laser welding of precision parts with the highest quality. AMADA WELD TECH offers its expertise to all of its customers to correctly match any welding application with the right laser welder, fibers, optics, tooling and process parameters. Our Laser Welders can join a wide range of (stainless) steels, nickel alloys, titanium, aluminum and copper. Typical laser welding applications include seam sealing of implantable medical devices, stents, guide wires, catheters, high frequency aerospace radar components, spot welding of small mechanical parts, battery housings, hermetic seam welding of sensors, etc.

Key Features of the Jupiter Advanced Laser Welding System

- Modular, stand-alone system adaptable to customers requirements
- Class-1 safety enclosure fulfills CE safety regulations
- High accuracy servo motor motion system
- Standard 3 CNC programmable axes (X,Y,Z), expandable to 5 (by adding 2 rotary axes)
- CNC G-code contour programming with powerful extensions
- Aerotech CNC controller platform
- Industrial PC for maximum certainty on product recipe and data logging storage
- PSLF (Position Synchronized Laser Firing) option to match laser output to a variable motion speed along a contour
- IMS3000 (Integrated Manufacturing Software) for integral production recipes, storing and loading of all relevant product parameters in one central database (laser, CNC, vision, operator work instructions, etc.)
- Advanced FDA/Mil-Spec compliant data logging (system messages, laser performance, serial and batch numbers and external power meter measurements)
- Integrated Remote Service and diagnostics

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Specifications Jupiter Advanced Laser Welding System

MODEL SPECIFICATIONS	Pulsed Nd-YAG	CW Fiber	QCW Pulsed Fiber
Average power levels (W)	max. 600	max. 4000	max. 450
Peak power levels (W)	max. 10000	max. 4000	max. 4500
Peak energy levels (J/pulse)	max. 100	n.a.	max. 45
Wavelength	1064 nm	1070 nm or 1080 nm	1070 nm
Laser head	Several options possible, incl. CCTV versions	Several options possible, incl. CCTV versions	Several options possible, incl. CCTV versions
Collimator lens focal distance (mm)	50 to 200	35 to 70	50 to 200
Focal lens focal distance (mm)	50 to 200	50 to 200	50 to 200
Optical fiber diameter (µm)	100 to 1000	10 to 1000	50 to 200
Effective spot sizes (µm)	100 to 1000	10 to 600	50 to 600
Optical fiber length (m)	5 to 40	5 to 20	5

TECHNICAL SPECIFICATIONS AXES	X-axis	Y-axis	Z-axis
Carrera	430 mm	350 mm	180 mm
Repetibilidad	± 6 µm	± 6 µm	± 20 µm
Velocity	300 mm/s	300 mm/s	190 mm/s

Opción	Rotary R-axis		
Static repeatability	0.05 º		
Rotational frequency	66 º/s (11 rpm)		
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MASSA E DIMENSIONI	Jupiter Advanced Laser Welding system		
Dimensiones LxAnXF (mm)	2013 x 1110 x 1110 (excl. laser, chiller & fume extraction unit)		
Dimensiones LxAnXF (mm)	2400 x 1415 x 110 (door opened and incl. HMI)		
Peso	± 600 kg (depending on options)		

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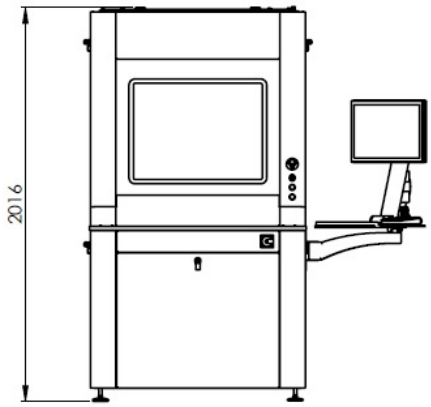
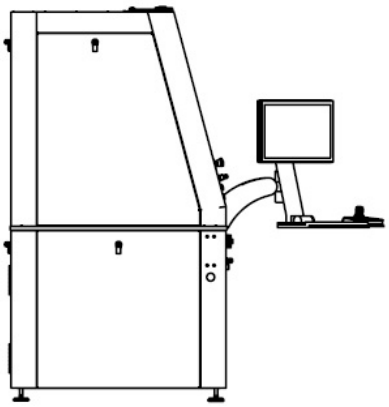
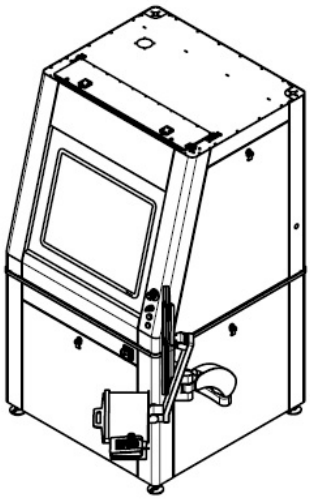
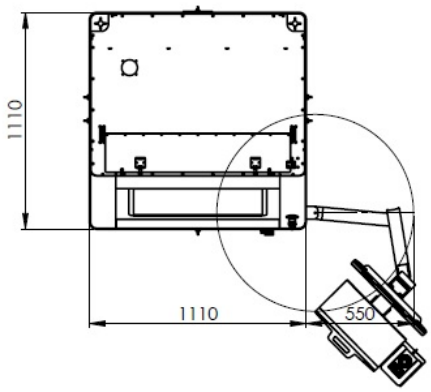
Drawings Jupiter Advanced Laser Welding System









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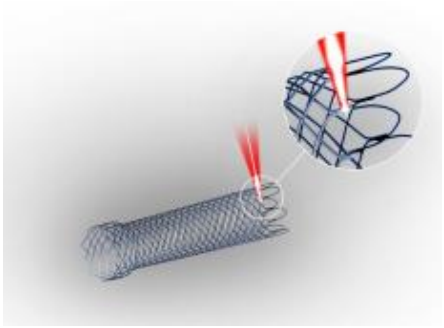
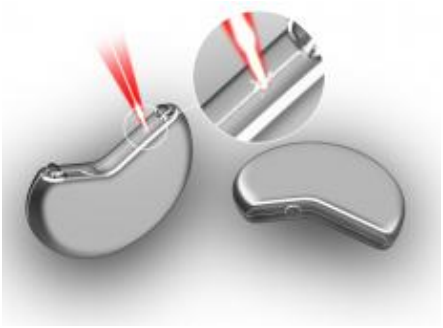
Product applications Jupiter Advanced Laser Welding System

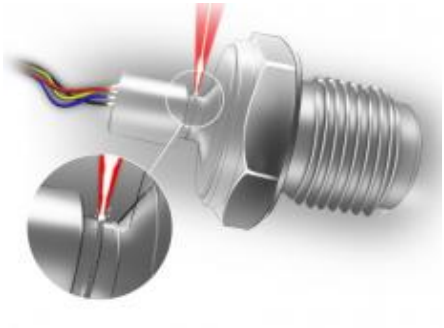


Stent welding

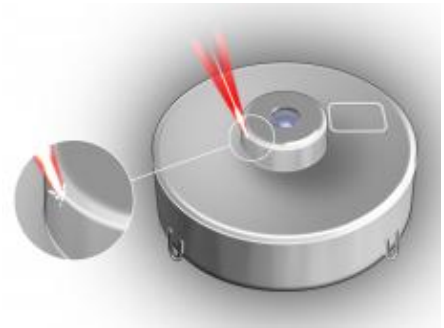


Seam welding of pacemaker cases

Laser welding metal guidewires



Seam welding of small rotary motors



Laser seam welding on drug pump

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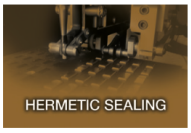
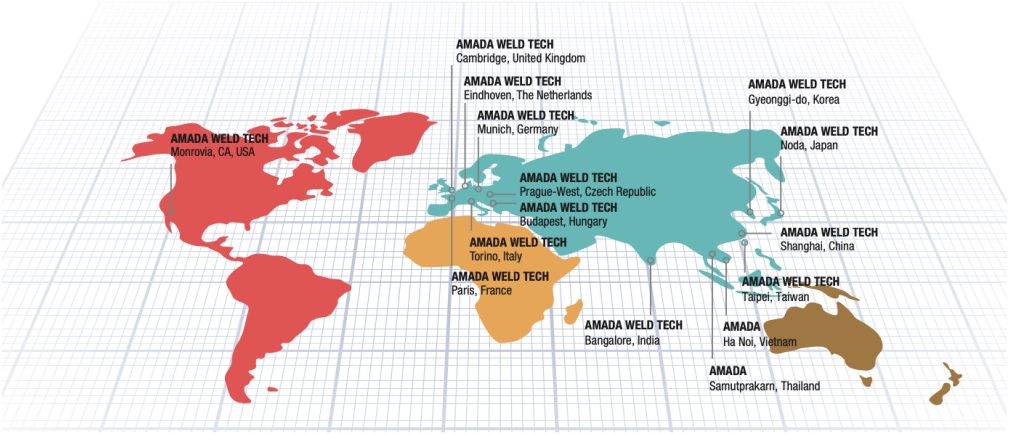
OUR TECHNOLOGIES



OUR SALES OFFICES



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AMADA WELD TECH GmbH
Lindberghstrasse 1 • DE-82178 Puchheim, Germany
T: +49 (0) 89 83 94 030 • Fax : +49 (0) 89 839403 68
infode@amadaweldtech.eu • www.amadaweldtech.eu
ISO 9001 Certified Company

Please contact our worldwide network here:

follow us on:

WWW.AMADAWELDTECH.EU