

laser welding

LW5AM Pulsed Nd:YAG Laser Welder

- 30 micron spot diameter for precision welding applications
- 20-segment pulse shaping provides deep penetration welds
- Up to three time share or energy share outputs and fiber delivery maximizes productivity
- Real time power feedback ensures exceptional pulse-to-pulse power stability
- CDRH and CE approved

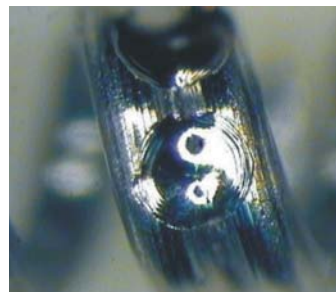


TYPICAL APPLICATIONS

The LW5AM Micro-Welder laser is specifically designed to meet the stringent demands of FDA Process certification and reliable long term performance for laser welding small, delicate components such as:

- Implantable medical devices
- Surgical tools
- Sensors
- Automotive electronics
- Aerospace components

LW5AM fits both your application and your budget. It features three built-in fiber outputs which can be configured in time share or energy share modes, so the most critical applications can be addressed utilizing one or more workstations up to 30 meters from the laser.



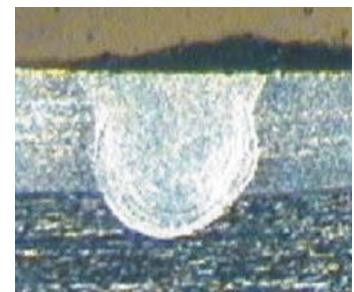
Fine Spring



Hypo-Tubing



Guide Wire Welding



Lap Weld Cross Section

Features

Process Control

The LW5AM Micro-Welder sets the industry standard for process control, weld quality and repeatability. High brightness output and low aberration beam delivery optics produce weld spot diameters as small as 30 microns and minimal heat affected zone (HAZ). Pulse width increments of 20µs down to 60 µs, and peak powers to 0.01kW, the LW5AM offer precise control of weld dimensions.

Real Time Power Feedback

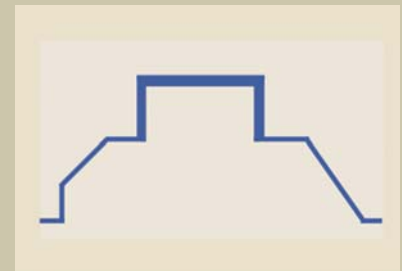
Real time power feedback ensures extremely accurate pulse-to-pulse stability and repeatability, essential for successful spot welding medical devices. Laser weld pulses are programmed in peak power which is monitored at a 20kHz sampling rate in real time. Lamp voltage is automatically adjusted to compensate for flashlamp degradation, temperature variations, and power changes due to thermal lensing.

20-Segment Pulse Shaping

Pulse shaping permits quick and easy optimization of robust laser weld schedules for a broader variety of materials. Pulse shaping is used to produce deep penetration welds without weld splatter and minimal HAZ. With up to 20 programmable segments, including ramp up/down, the A Series lasers provide the ultimate control, flexibility, and reliability in tailoring the laser weld pulse.



Programmed Pulse Shape



Actual Laser Output

SPECIFICATIONS

Parameter	LW5AM Micro-Welder
Input Power	200/220/240VAC +10% / -15%, 50/60Hz, single-phase
Maximum Peak Power	500W / 0.5ms
Maximum Peak Energy	100µm SI fiber: 0.12J / 200µm SI fiber: 0.25J
Average Output Power	100µm SI fiber: 0.24W / 200µm SI fiber: 0.25W
Pulse Width	60-500 µs (20µs increment)
Pulse Repetition Speed	1 – 30 pps
Input Voltage	200/220/240VAC +10% / -15%, 50/60Hz, 1Ø
Wavelength	1.064µm
No. of Schedules Available	32 schedules
Time/Energy Sharing*1	Single, energy share 2 – 3, time share 2 – 3
Applicable Optical Fibers	φ0.1mm SI optical fiber, φ0.2mm SI optical fiber
Cooling Method	Forced air cooling
External Communication	RS-485, Digital I/O
Size Inches H x W x D (mm)	27.2 x 12.2 x 26.2 (700 x 310 x 665)
Weight Lbs. (kg)	154 (70)



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