

LW50A/70A/150A

Pulsed Nd:YAG Laser Welders



AMADA MIYACHI's A-Series pulsed Nd:YAG lasers are designed to meet the stringent demands of precision welding applications found in diverse components such as medical devices, photonic devices, and other precision parts.

LW50A laser welder features small spot sizes, excellent beam quality and exceptional pulse-to-pulse stability. It is ideal for use in precise scan held weld systems. LW50A lasers are available in air or water cooled versions.

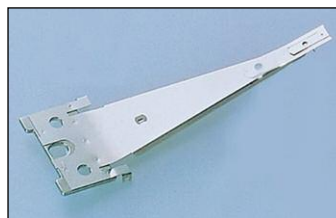
LW70A is a power and pulse energy upgrade over the model LW50A. It is an economical medium power laser which produces a wide range of spot sizes. LW70A lasers are available in air or water cooled versions.

LW150A is an economical high speed seam welder, ideal for ferrous materials. Higher average power allows for higher repetition rate and faster processing.

KEY FEATURES

- Real time closed-loop optical power feedback ensures exceptional pulse stability
- Power ramping results in smooth end-of-seam transitions
- Pulse shaping provides a wide process window
- Configurable with up to six time and energy sharing outputs
- Air-cooled option for simplified installation

TYPICAL APPLICATIONS



Disk drive gimbal



Medical probe



Automotive valve



Pacemaker cases

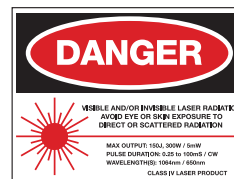
TECHNICAL SPECIFICATIONS

Parameter	LW50A	LW50AE	LW50AC	LW50ACE	LW70A	LW70AE	LW70AC	LW70ACE	LW150A	LW150AE
Maximum average power	50 Watts				70 Watts				150 Watts	
Maximum pulse energy	50 J ¹				70 J ¹				70 J ¹	
Maximum peak power	5 kW ¹				7 kW ¹				7 kW ¹	
Time share outputs	Up to 6									
Energy outputs	Up to 4									
Pulse width range	0.25 → 30 ms								0.25 → 100 ms	
Pulse width resolution	0.05 ms < 5 ms and 0.1 ms ≥ 5 ms									
Oscillation wavelength	1.064 μm									
Positioning guide beam	Built-in visible laser (red)									
Output stability	±3% ²									
Repetition speed	1 – 200 pps									
Input voltage	220 VAC +10%/-15%, 50/60 Hz ±3%, 3-phase for A, AC lasers 400 VAC +10%/-15%, 50/60 Hz ±3%, 3-phase for AE, ACE lasers									
Recommended service	20 A (220 VAC) and 10 A (400 VAC)								30 A (220 VAC) and 20 A (400 VAC)	
Max. power consumption	3.3 kW								5.7 kW	
Schedule set	32 schedules									
Schedule change time	Start Delay Time 0.1 ms, 1 ms, 4 ms, 8 ms, 16 ms selectable									
Ambient temperature	41 - 86°F (5 - 35°C)									
Alarm for lamp life	Preset number of shots or input power value to lamp									
RS-485: type baud rate parity stop bits	Full duplex or half duplex User defined, 9,600 bps, 19,200 bps or 38,400 bps Even, odd or no parity bit 1 or 2									
Cooling	5-25°C inlet water temp. 294 kPa max. pressure drop 1.0 ton cooling capacity	Air cooled – no external water required		5-25°C inlet water temp. 294 kPa max. pressure drop 1.0 ton cooling capacity	Air cooled – no external water required		5-32°C inlet water temp. 294 kPa max. pressure drop 1.5 ton cooling capacity			
Branch/main shutter speed	≤150 ms									
Time share shutter speed	≤50 ms									
Dust proof optics path	Yes									

Notes: ¹ Pulse Width = 10ms ² Laser output energy at least 5 J per pulse and 1 kW peak power minimum

WEIGHT & DIMENSIONS

	LW50A/70A	LW150A	LW50AC/LW50ACE/ LW70AC/LW70ACE	LW50AE/LW70AE	LW150AE
Dimensions L x W x H	39.2 in x 19.5 in x 39.0 in (995 mm x 495 mm x 990 mm)	39.2 in x 19.5 in x 39.0 in (995 mm x 495 mm x 990 mm)	39.2 in x 20.9 in x 39.0 in (995 mm x 530 mm x 990 mm)	39.2 in x 19.5 in x 39.0 in (995 mm x 495 mm x 990 mm)	39.2 in x 19.5 in x 39.0 in (995 mm x 495 mm x 990 mm)
Weight	463 lb (210 kg)	507 lb (230 kg)	485 lb (220 kg)	529 lb (240 kg)	551 lb (250 kg)



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