



# AE Series

## Pulsed Nd:YAG Air Cooled Laser Welders

### LW5AE – LW15AE – LW25AE

The AE-Series pulsed Nd:YAG lasers are designed to meet the stringent demands of **precision welding** applications such as medical devices, photonic devices, and small or delicate components. They are the result of a multi-year development effort, which leveraged AMADA MIYACHI's hands-on experience supporting the industry's foremost manufacturers of these components. These state-of-the-art lasers are air cooled, provide exceptional pulse energy and branch balance stability, and feature real-time power feedback, 20-segment pulse shaping, and up to three time-shared or three energy-shared fiber outputs.

#### KEY FEATURES

- Real time power feedback ensures the pulse-to-pulse energy stability which is essential for successful spot welding and process control
- Exceptional branch balance stability yields tight control over post weld shift in critical welding applications by providing precisely balanced laser pulse energy and weld nugget formation on every shot
- 20 segment pulse shaping permits quick and easy optimization of weld schedules for a variety of materials, produces deep penetration welds with low weld splatter and helps to eliminate cracking in difficult-to-weld materials
- CDRH
- Up to three time-share or energy-share outputs

#### TYPICAL APPLICATIONS



*Auto valve laser application*



*High speed weld*



*Disk drive gimbal*



*Small gauge wire welding*

## TECHNICAL SPECIFICATIONS

Parameter	LW5AE	LW15AE	LW25AE
Maximum average power	5 Watts	15 Watts	25 Watts
Maximum pulse energy	5 J @ 5.0 ms	15 J @ 5.0 ms	25 J @ 5.0 ms
Maximum peak power	2.5 kW	4.0 kW	6.0 kW
Time share outputs	Up to 3		
Energy outputs	Up to 3		
Pulse width (resolution)	0.2 → 10 mS (0.02 mS < 5 mS and 0.1 mS ≥ 5 mS)		
Repetition rate	1 - 30 pps		
Input voltage	200/220/240 VAC +10% / -15%, 50/60 Hz, 1Ø		
Breaker rated current / recommended service	15 A		
Schedule set	32 schedules		
Start delay time Schedule change time	1 mS, 4 mS, 8 mS, 16 mS selectable		
Ambient operational temperature	41 - 86°F (5 - 30°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	Air cooled. No external water required.		
Time share shutter speed	≤50 mS		
Dust proof optics	Yes		

## WEIGHT & DIMENSIONS

Controller dimensions (L x W X H)	26.2 in x 12.2 in x 27.2 in (665 mm x 310 mm x 700 mm)
Weight	154 lbs (70 kg)



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