

NEW



ALW 300

Closed laser welding system with high precision, long travel and NC control

The new **ALPHALASER** ALW 300 combines the excellent and powerful welding characteristics of the AL 300 with the precision of the working table ALT 500 in a newly designed and modern housing.

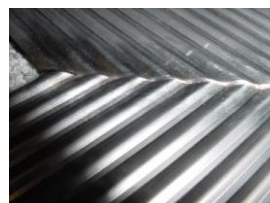
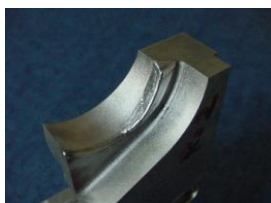
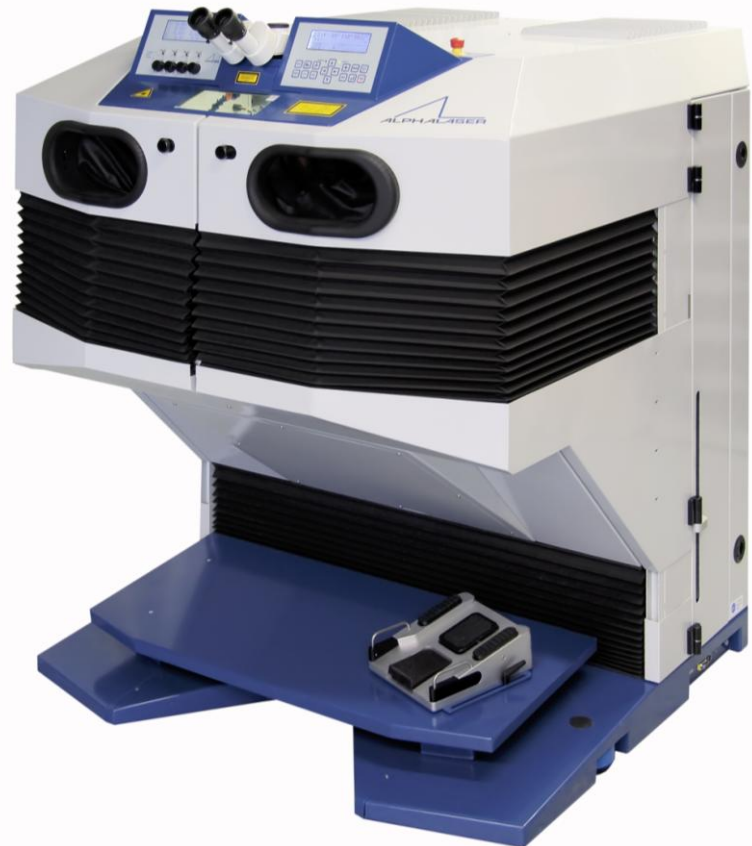
Developed as workstation to sit at, the ALW 300 allows concentrated working without fatigue even over long hours. Its excellent ergonomics are owed to the well-positioning of the foot control, the keyboard, the display and the joystick.

An extended axes range now offers a path of 500 mm x 400 mm x 350 mm in x, y and z.

This laser meets the increased demands of industries and tradespeople to carry out ambitious welding jobs on materials such as Aluminium, precious metals, Titanium and sensitive alloys. Such jobs are in increasing demand, and in such areas the advantages of Alpha Laser's new resonator concept become visible.

The digital control allows finest positioning of the work piece in 4-axis x, y, z and r (rotary axis is optional) either in manual operation (by joystick) or semi automatically with preselected speed of the motion axes or in automatic mode with the unique WIN-Laser "UCC"-software which adapts the motion system to the work piece geometry.

By using the turn and tilt optics the beam deflection can be increased by up to 40° from the vertical position. The integrated LED-ring illumination provides best visibility in the working area.



Repair welding in mould and tool production

ALW 200 / ALW 300



Technical data

Dimensions (W x D x H)	approx. 1190 x 1400 x 1500 mm
Total weight	approx. 870 kg
Electrical supply	3 x 400 V, 50/60 Hz, 3 x 16 A

Laser ALW 200 / ALW 300

Laser crystal	Nd:YAG
Wavelength	1064 nm
Average power	200 W 300 W
Peak pulse power	9 kW 10 kW
Pulse energy	90 J* 90 J*
	*max. pulse energy limited by software
Pulse frequency	single -/continuous pulse -100 Hz (automatic operation) - 25 Hz (under observation)
Pulse duration	0,5 ms – 20 ms
Welding spot Ø	0,2 mm – 2,0 mm
Pulse shaping	adjustable power-shaping within the laser pulse
Protection class	laser class 4
Cooling	air cooled with integrated cooling water circuit external cooling on demand

Weldable materials:

- Highly alloyed cold and hot work steels
- Bronzes, copper alloys
- High grade steels
- Steel- and grey cast iron alloys
- High tensile aluminium alloys
- Titanium alloys
- Nickel
- Precious metals such as platinum, gold

Repairs and changes on:

- Plastics injection die-cast tools
- Aluminium die-casting moulds
- Pressing, cutting and stamping tools
- Large size mechanical parts
- Laminator moulds and flasks for casting
- Sculptures and design objects

Motion system, motorized

Machine axes	3 or 4
Working area (x, y, z)	500 x 400 x 350 mm
Speed of travel	min. 0,05 mm/s - max. 25 mm/s (1,5 m/min)
Positioning accuracy	+/- 0,05 mm
Repeatability	+/- 0,01 mm

The system consists of (standard equipment):

- Laser with processing head and trinocular Leica
- UV-Protection
- Multifunctional foot control
- Illumination

Options:

- Integrated extraction system
- Ergowedge
- Turn and tilt optics
- Tilttable turntable
- Camera system
- WIN-Laser "UCC" Software
- Connection for external cooling



This laser product complies with the standard EN 60825-1 03/97 (IEC 825-1) and with FDA Performance Radiation Standards 21CFR chapter 1, part 1040.10

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