

AL-SW 150

The closed laser welding system for filigree work pieces for sensor and medical engineering

In the closed, laser-proof working chamber of the laser system AL-SW 150, you can weld delicate work pieces with up to 1m in length, either automatically or manually.

This laser system is designed for contact welding, micro welding, circular welding, sheath welding and end face welding, especially for welding fine work pieces such as sheathed cables, thermocouples and sensors.



Contact welding



Micro welding



Circular welding



End face welding

Components of the laser system

- Laser water-to-air cooling
- Laser resonator
- Leica observation objective
- Welding head
- Closed working chamber with rotating axis, pneumatic movable reference mark, lighting, channel for external smoke exhaustion
- NC control via touch screen
- Drehachse (CNC-gesteuert)
- UV-Blendschutz
- Footswitch,
- Laser safety system
- Shielding gas input
- USB connection for data backup

Options

- *Micro Welding* function
- Smoke exhaustion
- Ergo wedge for setting the individual viewing height for an ergonomic working position
- Camera system for displaying the working process on an external monitor
- Cross hair-synchro adapter for synchronizing the cross-hair during work outside of the welding spot
- Cross-hair generator for superimposing a cross-hair on an external monitor
- Digital shielding gas flow controller

Technical Data

External Dimensions	(L x W x H)	147 cm x 83 cm x 133 cm
	Stellfläche (L x H x H)	197 cm x 133 cm x 133 cm
	Weight	approx. 600 kg
Electrical Connections	Three-phase	3 x 400V, 50/60 Hz, 3 x 16A N/PE
Laser	Laser crystal	Nd:YAG, flash lamp-pumped
	Wavelength	1064 nm (invisible, near infrared)
	Laser protection class	4
	Average power	150 W
	Peak pulse power	9 kW
	Pulse duration	0.5 ms – 20 ms
	Pulse frequency	0-100 Hz
	Cooling water	12 l deionized water (conductivity > 5 µS/cm)
Welding	Focal spot Ø	0.2 -2.0 mm, 50 µm - 20 mm with <i>Micro Welding</i>
	Observation objective	Stereo microscope insert Eyepiece: 16x Visual field Ø 3 - 16 mm
	Focal distance	120 mm
	Shielding gas input	Included
Movement system	Machine axes	4 axes: X, Y, Z, R (2 x software-controlled, 2 x manual)
	Range of movement	X: ca. 80 mm Y: ca. 75 mm Z: ca. 60 mm
	Rotating axis	max. speed: 100 rpm
	Operating modes	manual, NC-software controlled(1 axis)

