

AL-TW

THE WORK BENCH WITH AN INTEGRATED ND:YAG LASER AND WINLASER 5.0

The AL-TW laser system is equipped with the latest NC software developed by ALPHA LASER. It offers the well-known WINLaser functionality paired with new extended features. Laser and motion system are operated very comfortably and easily via the intuitive touch screen.

A very convenient feature is that the resonator can now be moved separately from the worktable in height (W-axis). This increases the working area and improves ergonomics.

Laser sources with 200 and 300 watts are available. Other power classes (120 W/150 W/500 W) are available on request. The laser source is integrated in the table. Thanks to the modular device concept, a wide variety of objectives and focal lengths can be used - just as the welding task requires.

You can weld manually with the fast-reacting joystick, or semi-automatically. With the WINLaser software 5.0 you program welding tasks and the optional automatic wire feeder AL-DV (is directly connected to the CAN BUS and controlled via the central touch) supports automated work.

External components such as clamps, valves or pick & place robots can be controlled via I/O interface.



AL-TW 300



Height of the resonator motorized adjustable via W-axis

Technical data

	AL-TW 200	AL-TW 300
LASER		
Laser type/wave length	Nd:YAG, 1,064 nm	Nd:YAG, 1,064 nm
Average power	200 W	300 W
Peak pulse power	9 kW	9 kW
Pulse energy	90 J	90 J
Pulse duration	0.5 – 20 ms	0.5 – 20 ms
Pulse frequency	Single pulse – 100 Hz	Single pulse – 100 Hz
Operating modes	pulsed	pulsed
Welding spot Ø	0.2 – 2.0 mm / 0.05 – 0.5 mm with micro welding option	
Focusing objective	150 mm, further according to lens data sheet	
Pulse shaping	Adjustability of power curve within a laser pulse	
Display and operation	Laser parameters can also be set using a multifunctional footswitch. WINLaser 5.0-Software via Touch display.	
OBSERVATION LENS	Leica microscope attachment with eyepieces for glasses wearers 10 x, optional 16 x.	
WORK AREA		
Machine axis	X, Y, Z - rotary axis optional. Workpiece movement motorized via joystick	
Movement speed (X, Y, Z, W)	0.05 – 25 mm/s	
Movement range (X, Y, Z, W)	620 × 400 × 350 × 200 mm	
EXTERNAL DIMENSIONS		
W × D × H (basic component)	1,200 × 1,438 × 1,461 mm (1,647 mm with max. W axis)	
Side console (W × D × H)	726 × 500 × max. 2,025 mm	
Weight	approx. 800 kg (+ approx. 60 kg side console)	
EXTERNAL CONNECTIONS		
Electrical connection	3 × 400 V / 50 – 60 Hz / 3 × 16 A	
External cooling	optional	optional
Smoke exhaustion	Integrated (optional)	Integrated (optional)
OPTIONS		
	Turn and tilt objective	
	Rotary axis module with chuck, tiltable, for horizontal to vertical rotation	
	Camera system for demonstrating and observing the welding process	
	Ergo wedge	
	AL-DV programmable laser wire feed system	

AL-TW F

THE WORK BENCH WITH AN INTEGRATED FIBER LASER

The AL-TW F laser system can be equipped with 300, 450, 600 or 900 W laser sources. The laser source is integrated into the work bench. With the modular device concept, you can also use a wide range of objectives and focal distances, optimally adapted to your special welding jobs.

The open AL-TW F system allows welding of the largest and smallest workpieces, without limitation.

Whether deposition welding, repairs, series production, medical technology components or sensors, we offer you the right laser performance and plenty of accessories. If your needs change later, you can upgrade the 300 and 450 Watt models to double the performance.

The laser and movement system are easily operated from a side console with an intuitive touch screen. You can choose to weld manually with the quick-reacting joystick, semiautomatically or automatically with WINLaserNC software.



AL-TW 300 F



Height of the resonator motorized adjustable via W-axis

Technical data

	AL-TW 300 F	AL-TW 450 F	AL-TW 600 F	AL-TW 900 F
LASER				
Laser type/wave length	Fiber laser, 1,070 nm	Fiber laser, 1,070 nm	Fiber laser, 1,070 nm	Fiber laser, 1,070 nm
Average power	300 W	450 W	600 W	900 W
CW power	300 W	450 W	600 W	900 W
Peak pulse power	3 kW	4.5 kW	6 kW	9 kW
Pulse energy	30 J	45 J	60 J	90 J
Pulse duration	0.2 - 50 ms/CW			
Pulse frequency	Single pulse - 100 Hz			
Beam parameter product at 50 µm fiber	2 - 3 mm * mrad			2 x (2 - 3 mm) * mrad
Operating modes	Pulsed/CW			
Welding spot Ø	0.2 - 3.0 mm, optional 0.1 - 4.0 mm			0.3 - 3.0 mm, optional 1.1 - 4.0 mm
Focusing objective	150 mm, further according to lens data sheet			
Pulse shaping	Adjustability of power curve within a laser pulse			
Display and operation	Touchscreen. Laser parameters can also be set using a multifunctional footswitch, WINLaserNC software can be operated through a touchscreen			
OBSERVATION LENS	Leica microscope attachment with eyepieces for glasses wearers 10 x, optional 16 x.			
WORK AREA				
Machine axis	X, Y, Z rotating axis optional. Workpiece movement motorized with joystick			
Movement speed (X, Y, Z)	0.05 - 25 mm/s			
Movement range (X, Y, Z, W)	620 x 400 x 350 mm, W-axis 200 mm			
EXTERNAL DIMENSIONS				
W x D x H (basic component)	1,200 x 1,438 x 1,461 mm (1,647 mm with max. W-axis)			
Side console (W x D x H)	726 x 500 x max. 2,025 mm			
Weight	approx. 800 kg (+ approx. 60 kg side console)			
EXTERNAL CONNECTIONS				
Electrical connection	3 x 400 V / 50 - 60 Hz / 3 x 16 A			
External cooling				Lens water cooling integrated
Smoke exhaustion	Integrated (optional)	Integrated (optional)	Connectible externally	Connectible externally
OPTIONS				
Turn and tilt objective				
Rotary axis module with chuck, tiltable, for horizontal to vertical rotation				
Camera system for demonstrating and observing the welding process				
Ergo wedge				
AL-DV - programmable laser wire feed system				