

# Laser Welding Device AL-F

## ONE SYSTEM - 4 POSSIBLE LASER HEADS

The AL is now also available with a fiber laser. The fiber source is highly energy efficient. For reproducible welds, output monitoring keeps an eye on the welding process.

The AL-F's possibilities range from mobile welding with a laser pistol and video goggles to manual welding viewed through a microscope or fully automatic welding processes observed through a camera.



## Technical data

	AL 300 F	AL 450 F	AL 600 F	AL 900 F
<b>LASER</b>				
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 ms-CW			
Pulse frequency	Single pulse - 100 Hz			
Beam parameter product at 50 µm	2-3 mm * mrad			2 x (2-3 mm) * mrad (two fibers)
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	120-150 mm, further according to lens data sheet			
Pulse shaping	Adjustability of power curve within a laser pulse			
Display and operation	Laser parameters set through touchscreen or multifunctional footswitch AL-T Basis C triggered through laser touchscreen			
<b>OBSERVATION LENS</b>	Leica microscope attachment with eyepieces for glasses wearers, 10 x, optional 16 x.			
<b>EXTERNAL DIMENSIONS</b>				
Power supply unit W x D x H	550 x 600 x 1,050 mm			
Weight	approx. 100 kg			
<b>LASER BEAM SOURCE</b>				
With focusing unit (length x Ø)	Because various lenses are possible upon request			
<b>ELECTRICAL CONNECTIONS</b>				
Electrical connection	200-240 V / 50-60 Hz / 16 A		3 x 400 V / 50-60 Hz / 3 x 16 A	
External cooling	Lens water cooling integrated			
<b>CONNECTIVITY</b>	Integration of the AL-F in the system control and the movement system is possible on demand (digital IOs, bus system, customer-specific interface)			
<b>OPTIONS</b>	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 programmable laser wire feed system			