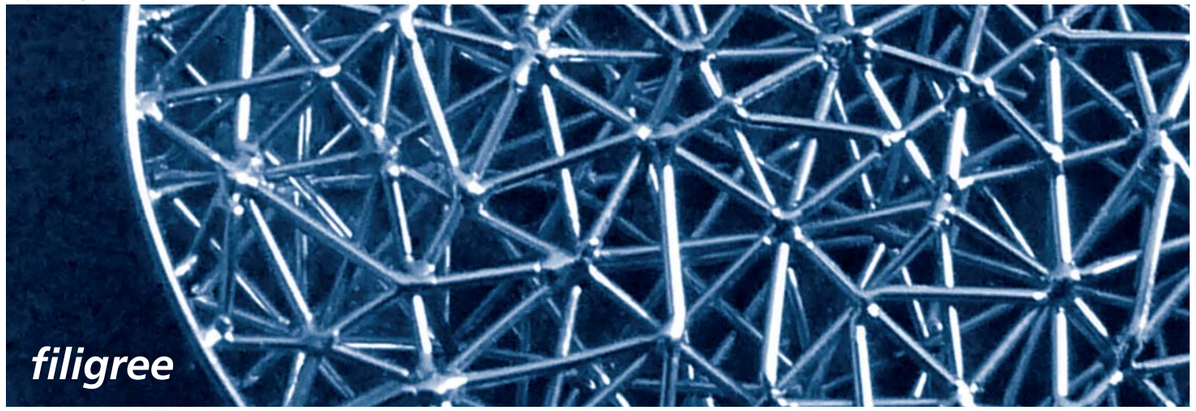

Photo: ALPHA LASER, Puchheim

AL*micro*

Particularly sensor technology applications demand special solutions, when it comes to weld-joining of fine wires and jacket tubes.
Here the AL 50/AL 100 demonstrates its outstanding beam quality. With the built-in, electric micro-welding appliance which can be turned on and off, the welding spot diameter can be reduced to 0,05 – 0,1 mm. This renders ultra-fine and exact welding on all kinds of sensor parts possible. The 55X magnification allows for welding on structures with dimensions < 50 µm.

Pressure-sensor for brake system
(Photo: ADZ NAGANO GmbH, Ottendorf)

Load cell (Photo: A.S.T. GmbH)

Technical data	AL 50	AL 100
Laser		
Average power	50 W	100 W
Peak pulse power	5 kW	7 kW
Pulse energy	50 J	70 J
Pulse duration	0,5 – 20 ms	
Pulse frequency	Single pulse, 50 Hz	
Welding spot diameter	0,2 mm – 2,0 mm (with micro welding aperture 0,05 – 1 mm)	
Focusing optics	120 mm, optional 90 mm	
Pulse shaping	3 pre-set pulse shapes, 3 freely programmable	
Control	User-specific operable, interface for external controls	
Viewing system	Leica binoculars with oculars suitable for wearers of glasses	
Supply unit		
Dimensions LxWxH in mm	820 x 400 x 910	
Weight	approx. 100 kg	
Laser beam source		
With focusing unit (length x Ø)	610 x 120 mm	
Weight	approx. 14 kg	
Electrical connection	200–240 V / 50–60 Hz / 16 A	
Options	> Coaxial lighting > Turn-and-tilt optics > Variety of lenses and optics > Programmable rotational axis > Ergo Wedge > TV system for demonstrating and observing the welding process > AL-Tmicro with adjustable motoric Z-support with display > Micromanipulator	

Photo: Schweißpunkt GmbH, Mühlacker

AL

The laser-series AL offers the appropriate laser power for each and every application. The laser is an optimum fit for the workbench AL-T, can however also be simply integrated into existing machine constructions. Diverse processing optics aid you in guiding the laser beam to the position you want to have it in. That makes for quick setting and adjustment of the laser to the workpiece in question. Thanks to many options, you can configure the optimum machine for your area of work.

Technical data	AL 75	AL 120	AL 150	AL 200	AL 300
Laser					
Average power	75 W	120 W	150 W	200 W	300 W
Peak pulse power	5 kW	9 kW	10 kW	9 kW	9 kW
Pulse energy	50 J	75 J	100 J	90 J	90 J
Pulse duration	0,5 – 20 ms	0,5 – 20 ms	0,5 – 20 ms	0,1 – 20 ms	0,1 – 20 ms
Pulse frequency	–15 Hz	–50 Hz	–20 Hz	–100 Hz (under observation)	–100Hz
Welding spot diameter	0,2 – 2,0 mm				
Focusing optics	150 mm				
Pulse shaping	Adjustable power-shaping within a laser pulse				
Control	user-specific operation with up to 128 data records			with up to 39 data records Interface for external control system	
Viewing system	Leica binoculars with oculars suitable for wearers of glasses				
Supply unit					
Dimensions LxWxH in mm	820 x 400 x 910				
Weight	120 kg	120 kg	120 kg	120 kg	120 kg
Laser beam source					
With focusing unit (length x Ø)	900 x 120 mm			1100 x 120 mm	
Weight	approx. 18 kg	approx. 18 kg	approx. 18 kg	approx. 20 kg	approx. 20 kg
Electrical connection	200–240 V / 50–60 Hz / 16 A		3 x 400 V / 50–60 Hz / 3 x 16 A N		
Options	> Micro-welding aperture for welding spot-Ø < 100µm > Turn-and-tilt optics > Rotational welding optics > Tiltable turntable with chuck for horizontal to vertical rotation > TV system for demonstrating and observing the welding process > LA*fet*® – programmable laser-filler-wire-feeder				

Die insert for an injection mould
(Photo: Grübel KG, Tabarz)

Deposit welding on worn waterproof edges
(Photo: L&A Lasertechnik, Radebeul)