

ALFlak SERIES

SELF-DRIVING, ROBUST, PROGRAMMABLE



OUR MOBILE LASER SYSTEMS ARE RELIABLE, DURABLE, USER-ORIENTED AND POWERFUL.

ALFlak Fiber



The ALFlak flexible laser system for deposition and contour welding has you optimally equipped. Whether you want to make repairs and modifications or produce in series, you can effortlessly process sheet metal, aluminum, stainless steel and sectional steel.

ALFlak Nd:YAG stationary

ALFlak Nd:YAG | ALFlak Fiber

LASER SYSTEMES

EFFICIENT

Choose the laser source depending on your requirements: You can choose between **Nd:YAG** 200 and 300 W laser sources or **fiber lasers** with laser powers of 300, 450, 600, 900 and 1200 W.

The fiber source model is recommended if your application requires a validated process, if you wish to weld using CW (continuous wave) method and pulses. Also ideal for deep welding in sheet metal fabrication and for laser cladding. Wire diameters up to 1.6 mm can be melted in the high performance classes. Even 2.0 mm with the ALFlak 1200.

If your needs change later, you can equip your ALFlak with a 300 W or 450 W fiber source to double the output.

FLEXIBLE

The ALFlak's laser arm projects a great distance to effortlessly reach its welding position, even in deep or complex molds. Welding seams up to 340 mm are possible without relocation. Your advantage: The welding process can be performed without constant repositioning.



ALL ALFLAK MACHINES ARE AVAILABLE WITH A SELF-PROPELLED CATERPILLAR TRACK OR AS A MANUALLY MOVING VERSION.

WINLASER® 5.0

Our innovative operating software WINLaser 5.0 sets new standards in the Nd:YAG laser system in operating convenience and efficiency for intuitive and efficient machine control.



Learn more on our website



Simple operation thanks to direct camera view of the working area



VERSATILE

The welding laser offers a wide range of applications. Filigree to very large components can be welded manually, semi-manually or automatically - whether powder, wire or joint welding, everything is possible.



There are a number of options available:

- Automatic wire feeder AL-DV
- Powder nozzle AL-FLOW Powder for automated powder deposition welding (fiber lasers > 450 W)
- Heavy duty rotary axis for shaft welding
- Mabotic and 3D-Scanner
- Powder feeder AL-PF for automated powder deposition welding (fiber laser > 450 W)
- Different lenses



TECHNICAL DATA

200 300 450 600 900 1200*



The system meets the high safety requirements of performance level d.

*ALFlak 1200 F is described in a separate data sheet.

	ALFlak 200	ALFlak 300	ALFlak 300 F	ALFlak 450 F	ALFlak 600 F	ALFlak 900 F
LASER						
Laser type/wave length	Nd:YAG, 1,064 nm	Nd:YAG, 1,064 nm	Fiber laser, 1,070 nm	Fiber laser, 1,070 nm	Fiber laser, 1,070 nm	Fiber laser, 1,070 nm
Average power	200 W	300 W	300 W	450 W	600 W	900 W
CW power			300 W	450 W	600 W	900 W
Peak pulse power	9 kW	9 kW	3 kW	4.5 kW	6 kW	9 kW
Pulse energy	90 J	90 J	30 J	45 J	60 J	90 J
Pulse duration	0.5–20 ms		0.2–50 ms/CW			
Pulse frequency	Single pulse–100 Hz					
Operating modes	Pulsed		Pulsed/CW			
Welding spot Ø	0.2–2.0 mm / 0.05–0.5 mm with micro welding option		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	Display with membrane keyboard. Laser parameters can also be set using a multifunctional footswitch. WINLaser 5.0 software through external PC		Touchscreen Laser parameters can also be set using a multifunctional footswitch, WINLaser 4 software can be operated through a touchscreen			
OBSERVATION LENS	Leica microscope attachment with eyepieces for glasses wearers 10 x, optional 16 x.					
WORK AREA	The processing head can be freely positioned in the room manually and can also be moved by motor using a joystick.					
Movement speed (X, Y, Z)	0–25 mm/s					
Movement range (X, Y, Z)	340 × 330 × 370 mm					
Lowest working point	200 mm		200 mm			
Highest working point	1,500 mm		1,500 mm			
Arm deflection	1,500 mm		1,500 mm			
EXTERNAL DIMENSIONS						
W × D × H (basic part incl. chassis)	1,200 × 1,200 × 1,100 mm		1,200 × 1,030 × 1,150 mm			
Weight	With caterpillar track approx. 850 kg, without caterpillar track 550 kg		With caterpillar track approx. 910 kg, without caterpillar track approx. 610 kg			
EXTERNAL CONNECTIONS						
Electrical connection	3 × 400 V / 50–60 Hz / 3 × 16 A					
External cooling	optional	optional	optional	optional	Lens water cooling integrated	
OPTIONS	Turn and tilt objective, micro welding function, 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 AL-DV		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 AL-DV			Powder nozzle, turn and tilt objective with water cooling