

AL-CROSS SERIES

MOBILE FIBER LASER SYSTEM FOR WELDING



AL-CROSS

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



The AL-CROSS and AL-CROSS X are ideal for sheet metal applications or in mechanical engineering. With a 450 W or 600 W laser source, they provide the necessary power and flexibility for pulsed or CW deep welding. The mobile systems of the AL-CROSS series are optimal entry-level systems for „heavy metal“ applications.

AL-CROSS X

AL-CROSS

THE BASIS FOR MOBILE FIBER LASER WELDING

STABLE

The **robust steel housing** with sturdy aluminium handles protects the system from impacts. The handles also make it easier to move the system. Integrated lashing eyes and a hook for a winch facilitate securing and loading. Stable screws fix the arm for transport **without any tools**.



Stable screws for transport securing

USER-FRIENDLY

The **spacious shelves** provide convenient storage for tools and wire. Special baskets can be hung on the **side perforated grid**, offering space for welding wire, joystick, gas pedal, and safety glasses.

The fifth wheel on the laser allows for the transport of the gas cylinder.



Convenient transport of the gas cylinder



MOBILE

The integrated gas cylinder holder enables not only efficient operation but also the mobility of the device, allowing the necessary parts, including the gas cylinder, to be **easily moved** from one location to another.

Both devices are mobile thanks to their easily maneuverable wheels. With a **narrow width of 780 mm**, both devices fit easily through standard doors.

MULTIFUNCTIONAL
AND
COMPACT.

AL-CROSS X

THE ENHANCED VERSION FOR MORE COMFORT

COMPACT

Thanks to its compact design, the AL-CROSS is very **space-saving** and can be conveniently transported in a standard small van with a transport height of 1.25 m (the display is foldable). The compact design allows for efficient use of space and makes working in confined environments easier.



The AL-CROSS X fits in a standard van



FLEXIBLE

With its **movable arm structure**, the AL-CROSS X can weld at particularly unusual heights and depths. The increased flexibility in welding positioning allows for precise work at various angles and enables the use of the welding device **in hard-to-reach places**. This results in increased versatility and efficiency in welding projects.

POWERFUL

The fiber laser is **powerful**, offering a constant laser output of 450 W/600 W ready for use. Welding can be performed either pulsed or in CW mode. The welding behaviour can be influenced by predefined pulse shapes. The laser parameters are adjusted via the touchscreen, the multifunction footswitch, or the new multifunction joystick AL-DRIVE.



Welding positioning at unusual heights and depths



TECHNICAL DATA

450 W 600 W



The system meets the high safety standards for performance level d.

	AL-CROSS 450 F	AL-CROSS 600 F	AL-CROSS X 450 F	AL-CROSS X 600 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	450 W	600 W	450 W	600 W
CW power	450 W	600 W	450 W	600 W
Peak pulse power	4.5 kW	6 kW	4.5 kW	6 kW
Pulse energy	45 J	60 J	45 J	60 J
Pulse duration	0.2–50 ms/CW			
Pulse frequency	Single pulse - 100 Hz			
Beam parameter product at 50 µm	20–3 mm * mrad			
Operating modes	Pulsed/CW			
Welding spot Ø	0.2–3.0 mm			
Focusing objective	150 mm, further according to lens data sheet			
Pulse shaping	Adjustability of power curve within a laser pulse			
Display and operation	Laser parameters set through touchscreen, multifunctional footswitch keyboard or/and AL-Drive			
OBSERVATION LENS	Leica microscope attachment with eyepieces for glasses wearers 10 ×, optional 16 ×			
WORK AREA	The processing head can be freely positioned anywhere in the room and can also be moved by a motor using the joystick			
Movement speed (X, Y, Z)	0–25 mm/s			
Movement range (X, Y, Z)	120 × 110 × 800 mm			
Lowest working point	400 mm		400 mm	
Highest working point	1,400 mm		1,900 mm	
Arm deflection	approx. 1,350 mm		approx. 1,350 mm	
EXTERNAL DIMENSIONS				
W × D × H	780 × 1,530 × 1,560 mm		780 × 1,590 × 1,250 mm	
Weight	approx. 500 kg		approx. 500 kg	
EXTERNAL CONNECTION				
Electrical connection	3 × 400 V / 50–60 Hz / 3 × 16 A			
Option for optics cooling	Internal water circuit for optics cooling, including connection possibility for an external cooler to support the cooling of the laser module.			
OPTIONS	Turn and tilt objective Rotary axis module with chuck, tiltable, for horizontal to vertical rotation Crossjet Camera system for demonstrating and observing the welding process Ergo wedge			

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