

# AL-CROSS

## MOBILE FIBER LASER SYSTEM FOR WELDING

### The values of the AL-CROSS: Robust, user-oriented, mobile and powerful

Its housing is **robust** with sturdy aluminum handles that provide shock protection for edges and housing and supports the easy movement of the system. There are integrated eyelets for loading and stowing, plus a hook for a winch.

**User-oriented** are the generous storage areas for this and that, as well as the specially designed holders that can be fixed to the hole pattern on the sides of the welding laser to accommodate welding wire, joystick, the foot pedal, safety glasses and tools. The 5th wheel on the laser enables the direct transport of the gas bottle, which is extremely practical.

The AL-CROSS is **mobile** thanks to its easily movable wheels. It fits through standard doors and with its transport height of 1.25 m (display can be tilted) into every small van with a loading height of at least 1.40 m. And the best way to

experience the mobility of the arm, the lenses and the laser head is to try it out!

The fiber laser is **powerful**, because 450 W constant laser power are waiting for use. Welding is either pulsed or in CW mode. The welding behaviour can be influenced via integrated pulse shapes. The parameters are set either via the colour display or via the multifunction footswitch or the new AL-DRIVE control unit.

The display is titlable (orientable) in order to always have an optimal view and an integrated keyboard is within easy reach of the operator.



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And best of all: the "senior mode" which allows the operator to set or read the laser parameters without reading glasses.

With the new control unit AL-DRIVE, you steer the axes of the AL-CROSS, set them in semi-automatic mode and adjust the laser parameters. The pulse trigger, the R axis and the fast gear are located in the joystick. And whether you are left-handed or right-handed doesn't matter, because the buttons can be freely programmed.



Joystick AL-DRIVE

## Technical data

AL-CROSS 450 F	
<b>LASER</b>	
Laser type/wave length	Fiber laser, 1070 nm
Average power	450 W
CW power	450 W
Peak pulse power	4.5 kW
Pulse energy	45 J
Pulse duration	0.2 ms - CW
Pulse frequency	Single pulse - 100 Hz
Beam parameter product at 50 $\mu$ m	2-3 mm * mrad
Operating modes	Pulsed/CW
Welding spot $\varnothing$	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
<b>OBSERVATION LENS</b>	Leica microscope attachment with eyepieces for glasses wearers, 10 $\times$ Optional 16 $\times$ .
<b>WORK AREA</b>	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 $\times$ 110 $\times$ 800 mm
lowest working point	400 mm
highest working point	1900 mm
Arm deflection	1300 mm
<b>EXTERNAL DIMENSIONS</b>	
W $\times$ D $\times$ H	790 $\times$ 1590 $\times$ 1250 mm
Weight	480 kg
<b>EXTERNAL CONNECTIONS</b>	
Electrical connection	3 $\times$ 400 V / 50-60 Hz / 3 $\times$ 16 A / 16 A
External cooling	Lens water cooling integrated
<b>OPTIONEN</b>	Turn and tilt objective   Rotary axis module with chuck, tiltable, for horizontal to vertical rotation   Crossjet   TV system for demonstrating and observing the welding process   Ergo wedge