

# Laser Welding Device AL-ARM 450 F

MOBILE AND FLEXIBLE REPAIR WELDING FOR THE  
REWORK OF BODY COMPONENTS

The AL-ARM 450 F is very compact but equipped with a powerful 450 W fiber laser. It comes with a hand piece with an integrated wire feed (wire thickness 0.6 mm) with automatic feed, with which homogeneous welding can be carried out. During the welding process, the welding seam width can be adjusted manually. The hand piece is attached to a 3.5 m long energy chain and weighs no more than 1.5 kg. Thus, it is very easy to handle and flexible to use.

The AL-ARM welding system is completed by a 3D visualization. This is realized by means of (pass-through) 3D laser protection goggles, which show the surrounding and the welding task simultaneously. The welding area is enlarged and the process-relevant data, e.g. the crosshair, is superimposed.

Laser safety is of great importance: The integrated material recognition allows the welding process only when the hand piece is placed on the workpiece. This avoids direct laser radiation being emitted uncontrolled. The built-in laser safety circuit is approved by TÜV Süd.

By using the laser system AL-ARM, laser welding of pores, ripples and offset seams can be carried out in a mobile, fast and extremely flexible manner.



3D-Laser protection goggles



Hand piece with automatic wire feed



AL 450 F

## Technical data

Laser type	Fiber laser
Wave length	1070 nm
Average power	450 W
CW-power	450 W
Peak pulse power	4500 W
Pulse energy	45 J
Pulse duration	0.2 ms - CW
Pulse frequency	Single pulse - 100 Hz
Electrical connection	3-phase, 16 A
Operating modes	Pulsed / CW
Focal spot Ø	0.3 - 4 mm
Focal distance	120 mm
Pulse shaping	adjustable
Energy chain length	3.5 m
Weight hand piece	1.5 kg
Weight AL 450 F	120 kg

## Scope of Delivery

- Supply unit AL-450 OEM with fiber source, control and touchscreen
- Hand piece AL-AKO H
- Ficture M – for manual wire feed
- Ficture A – automatic wire feeder
- Image data processing
- 3D visualization with Pass-Through
- Two cases for equipment

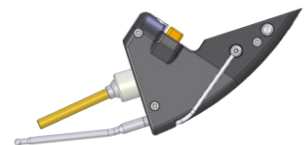


Figure M

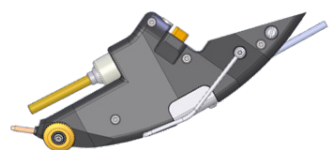
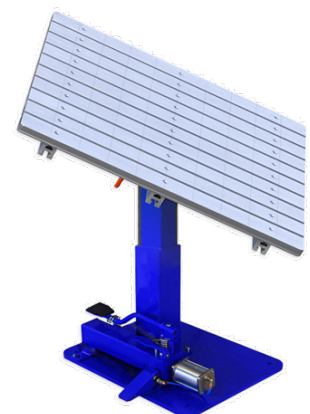


Figure A

## Options

- Manipulator table with ALPHA LASER-rapid clamping system for quick and save fixing of work pieces for welding.
- Monitor + HDMI-cable for two-dimensional-representation of welding processes. 3D-visualization and monitor can be used simultaneously.



Manipulator table