



ALFLAK mobile

Flexible Laser for deposit- and contour welding

With the welding laser ALFlak mobile deposit welding and welding of contours can be accomplished safely and efficiently on big machine components, design parts and injection- and forming dies. The new semi-automatic „User-Coordinate-Controller“ makes three-dimensional motions very easy.

Up to 300 Watts average power permits the use of filler metals with bigger diameters and offers a continuously homogeneous fusion with the base material.

The digital control allows finest positioning of the processing head over the work piece in 4-axis x, y, z and r (rotary axis is optional either in manual operation (by joystick) or semi automatically with preselected speed of the motion axes or in automatic mode with the unique WIN-Laser „UCC“-software which adapts the motion system to the work piece geometry.

From the vertical working position the processing head with binocular can be pivoted sideways up to 120° to the left and right allowing the laser beam to be deflected in nearly every position.

Option

By using the turn and tilt optics the beam deflection can be increased by up to 45° from the vertical position. At the same time this beam optic can be turned continuously 360° in any desired position. The integrated LED-ring illumination provides best visibility in the working area.



Technical Data

ALFLAK mobil

Supply Unit

(W x D x H)

approx. 1200 x 1200 x 1100 mm

Weight

approx. 800 kg

Electrical supply

3 x 400 V, 50/60 Hz, 3 x 16 A

Laser MACO 200 / MACO 300 -CL 4

Laser crystal

Nd:YAG,

Wavelength

1064 nm

Average power

200 W / 300 W

Peak pulse power

9 kW / 10 kW

Pulse energy

150 mJ - 90 J / 80 J

Pulse frequency

single-/continuous pulse - 100 Hz (automatic operation)
- 25 Hz (under observation)

Pulse duration

0,5 ms - 20 ms

Welding spot - \varnothing

0,2 mm - 2,0 mm

Pulse shaping

adjustable power-shaping within the laser pulse

Protection class

laser class 4

Cooling

air cooled

external cooling if required

Motion system, motorized

Machine axes

3 or 4

Working area (X, Y, Z)

approx. 1500 x 1000 x 1000 mm

Travel (X, Y, Z)

approx. 350 x 350 x 350 mm

Arm movement

Distance

1500 mm

Lowest working point

200 mm

Highest working point

1500 mm

The system consists of (standard equipment):

- Travel unit
- Laser MACO CL 4 with processing head and binocular Leica
- UV-Protection
- Multifunctional foot control
- Illumination
- WIN Laser „JCC“ software
- Remote control

Options

- Ergo wedge
- Turn- and tilt optics
- Tilttable turntable
- Camera system

Weldable Materials

- Highly alloyed cold and hot work steels
- Bronzes, copper alloys
- High grade steels
- Steel- and grey cast iron alloys
- High tensile aluminium alloys
- Titanium alloys
- Nickel
- Precious metals such as platinum, gold

Repairs and changes on:

- Plastic injection die-cast tools
- Aluminium die-casting moulds
- Pressing, cutting and stamping tools
- Large size mechanical parts
- Laminator moulds and flasks for casting
- Sculpture and design objects