laser technology tcms

MACO 100 (M)ini

The compact and versatile one

The compact laser unit with its closed working chamber is used for precision welding and deposit welding. It demonstrates its advantages in applications such as tool and mould manufacture, sensor production and medical technology. The laser can be individually equipped for manual welding of one-off parts, semi-automatic welding for batch production and fully automatic welding for volume production. The four-axis motion system enables controlled movement of workpieces up to 50 kg in the working chamber using either the joystick or automatic control. In addition, the worktable's large vertical travel enables processing of larger tools and moulds.

Technical Data	MACO 100 (M)ini	MACO 150 (M)ini
Laser		
Laser crystal	Nd: YAG	Nd: YAG
Wavelength	1064 nm	1064 nm
Average power	100 W	150 W
Pulse energy	75 J	75 HJ
Peak pulse power	9 kW	9 kW
Pulse duration	0.5 - 20 ms	0.5 - 20 ms
Pulse frequenzy	single pulse - 20/30 Hz	
Welding spot -Ø	0,2 - 2,0 mm, continuously variable	
Focussing lens	150 mm	150 mm
Pulse shaping	adjustable power-shaping within a laser pulse	
Control	user-specific operation with up to 128 parameter sets	
Viewing optics	Leica binokular with eyepieces for spectacle wearers	
Working compartment		
Working compartment W x L x H	590 x 450 x 550 mm	590 x 450 x 550 mm
Working plate W x T	360 x 335 mm	360 x 335 mm
Workpiece weight	50 kg max., central	50 kg max., central
Workpiece motion	motorised, via joystick	motorised, via joystick
Positioningpath	z: 250 mm	z: 250 mm
	x,y: 100 x 100 mm	x,y: 100 x 100 mm
Mechanical dimensions		
L x W x H	1010 mm x 650 mm x 1350 mm	1010 mm x 650 mm x 1350 mm
Weight	approx. 200 kg	approx. 200 kg
Electrical supply	200-240 V / 50-60 Hz / 16 A	3 x 400 V, 50-60 Hz, 3 x 16 A
Cooling	air cooled with internal cooling water	
Options	> digital version for fully automatic CNC welding operation via programming teaching in or CAD input	
	> micro-welding	
	> multi-function foot-switch for setting laser parameters	
	> tiltable turntable with chuck for horizontal to vertical rotation	
	> coaxial lighting for optimal illumination of cavities in the workpiece	
	> magnetic workpiece clamping for free positioning of the workpiece	
	> TV-system for demonstrating and observing the welding process	

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