ALV

TAILORED TO YOUR NEEDS

The compact and ergonomic ALV welding laser has a laser-safe working chamber and is available with different laser powers, laser sources and with app or NC control.

The ALV is used in the areas of precision and deposit welding in the tool and mold sector, in sensor production and in medical and precision engineering.

The welding machine offers a large height travel and doors that can be opened wide, so that even larger workpieces can be accommodated.

For sensor applications, upward-opening wing doors with a side slot can be ordered for easy positioning of long tubes. A fine welding function reduces the spot diameter to 0.1 mm.

The ALV has 3 linear axes of movement, with the vertical Z-axis lifting up to 50 kg. Different axes of rotation for machining cylindrical parts are optionally available.

The machine version with WINLaserNC control enables interpolated driving in XYZ for automated welding such as the processing of magazines with several components.

The laser system is operated via an intuitive touchscreen.

In just a few steps, the laser-safe, closed system can be turned into an open laser workstation, for which of course appropriate laser protection measures must be taken.

The ALV meets the high security requirements for performance level d.

ALV

ALV *open*

The ALV is optionally equipped with an Nd:YAG laser or a fiber source. Laser powers of 120-300 W are available.

Technical data

	ALV 120	ALV 120 WINLaserNC	ALV 180	ALV 180 WINLaserNC	ALV 150 F WINLaserNC	ALV 300 F WINLaserNC
LASER						
Laser type/wave length	*Nd:YAG, 1,064 nm*	*Nd:YAG, 1,064 nm*	*Nd:YAG, 1,064 nm*	*Nd:YAG, 1,064 nm*	*Fiber laser, 1,070 nm*	*Fiber laser, 1,070 nm*
Average power	*120 W*	*120 W*	*180 W*	*180 W*	*150 W*	*300 W*
CW power					*150 W*	*300 W*
Peak pulse power	*9 kW*	*9 kW*	*9 kW*	*9 kW*	*1.5 kW*	*3 kW*
Pulse energy	*75 J*	*75 J*	*90 J*	*90 J*	*15 J*	*30 J*
Pulse duration	*0.5–20 ms*				*0.2–50 ms/CW*	
Pulse frequency	*Single pulse–50 Hz*		*Single pulse–100 Hz*		*Single pulse–100 Hz*	
Operating modes	*Pulsed*				*Pulsed/CW*	
Welding spot Ø	*0.2–2.0 mm* *With micro welding function (optional) 0.05–0.5 mm*				*0.2–3.0 mm, optional 0.1–4.0 mm*	
Focusing objective	*150 mm, further according to lens data sheet*					
Pulse shaping	*Adjustability of power curve within a laser pulse* *(5 with SPS and 9 with WINLaserNC)*					
Display and operation	*Touchscreen. Laser parameters can also be set using a multifunctional footswitch (optional)*					
OBSERVATION LENS	*Leica microscope attachment with eyepieces for glasses wearers 10 ×, optional 16 ×*					
WORKING CHAMBER						
W × D × H	*580 × 420 × 530 mm*					
Mounting plate (W × D)	*455 × 315 mm; table feed-through at the bottom of the working chamber (Ø 46 × 40 mm)*					
workpiece weight	*max. 50 kg, central load*					
Workpiece movement	*Motorized through joystick (manual, semi-automatic or automatic)*					
Movement range (X, Y, Z)	*110 × 90 × 280 mm*					
Movement speed	*0–25 mm/s*					
Extraction	*Integrated*					
EXTERNAL DIMENSIONS						
W × D × H	*650 × 1160 × 1590 mm*					
Weight	*approx. 260 kg*					
EXTERNAL CONNECTIONS						
Electrical connection	*200–240 V / 50–60 Hz / 16 A*		*3 × 400 V / 50–60 Hz / 3 × 16 A*		*200–240 V / 50–60 Hz / 16 A*	
OPTIONS	*Various rotary axis modules with chuck (also pneumatic) , tiltable, for horizontal to Vertical rotation* *Micro welding device* *Camera system for demonstrating and observing the welding process* *Ergo wedge* *Multifunctional footswitch* *Wing doors* *Turn-and-tilt objective* *Objective extension for f = 120 mm* *Laminar nozzle*					

V3.1