Closed laser system

AL-Q

LASER WELDING-STATION FOR AUTOMATED PRODUCTION

The AL-Q is a laser class 1 welding cell. It can be loaded manually or connected to a pick-and-place system.

The AL-Q is ideal for automated work. An electric door opens and closes at the push of a button, ideal for quickly equipping the work chamber. Individual parts or magazines find enough space on the centrally arranged worktable. Long components can also be inserted into the cabin from underneath via a passage in the worktable or via slots on the side of the housing (optional). A pick-and-place system can be connected or retrofitted for more automation.

It is a laser cell that is available with different air-cooled fiber laser sources with 150, 300, 450 or 600 watts. The 450 and 600 watts are optionally available with water cooling. The machine can be flexibly equipped with all ALPHA LASER processing heads. A quick-change system is available on demand.

AL-Q

AL-Q open

ALPHA LASER GmbH Junkersstraße 16 D-82178 Puchheim Tel +49 (0)89 890237-0 info@alphalaser.de www.alphalaser.eu

Programming is easy to learn, since our well-known WINLaserNC software doesn't require G-codes. Different user levels and access rules can be defined to avoid working errors.

Even manual welding tasks can be carried out on the AL-Q (rework, single piece, etc.). Just connect the optional ALPHA LASER 2D-video goggles to observe the welding process. Work is then carried out with the door open – with additional laser protection measures.

An external extraction (start-stop integrated in the AL-Q) reliably extracts welding fumes.

Technical data

	AL-Q 150	AL-Q 300	AL-Q 450	AL-Q 600
LASER				
Laser type/wave length	Fiber laser, 1070 nm			
Average power	150 W	300 W	450 W	600 W
CW-power	150 W	300 W	450 W	600 W
Peak pulse power	1.5 kW	3 kW	4.5 kW	6 kW
Pulse energy	15 J	30 J	45 J	60 J
Pulse duration	0.2 ms-CW			
Pulse frequency	Single pulse-100 Hz			
Beam parameter product for 50 µm	2-3 mm*mrad			
Operating mode	Pulsed/CW			
Welding spot Ø	0.2-2.0 mm			
Focusing objective	150 mm			
Display and operation	15" Touchscreen display. WINLaserNC-Software programmable with integrated PC, keyboard and mouse			
OBSERVATION LENS	Monitor			
WORKING CHAMBER				
W × D × H	900 × 650 × 850 mm			
Mounting plate (W × D)	610 × 440 mm			
Workpiece weight	100 kg, central			
Movement range (X, Y, Z)	210 × 175 × ca. 300 mm			
EXTERNAL DIMENSIONS				
W × D × H (in working position, door open)	1850 × 1775 × 2470 mm			
W × D × H (in transport position, door closed, without signal tower)	1250 × 1140 × 1990 mm			
Weight	475 kg			
EXTERNAL CONNECTION				
Electrical connection	3 × 400 V / 50–60 Hz / 3 × 16 A			
OPTIONS	Turn and tilt objective Rotating axis Sealing air Cross jet Pneumatic I/O			

V1.0

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