

## AL-IN 120 | AL-IN 150 | AL-IN 200 | AL-IN 300

### FLEXIBLE AND ROBUST LASER DEVICE FOR WELDING A WIDE VARIETY OF COMPONENTS

The AL-IN is composed of the Nd:YAG laser source AL combined with the X, Y, Z motion system AL-T basic and is available with 120, 150, 200 or 300 W.

The system is characterized by its great flexibility.

The components can be positioned freely under or next to the motion system, because a wide variety of work tables can be placed in front of the lifting column or you can work directly on the pallet. A fixed table top is available as an option.

The resonator can be pivoted 360° and fixed in any rotated position. Likewise, the resonator, which rests in a slide rail, can be placed far forward or moved down or up by a tilt joint\*.

The special feature of the AL-IN is that it is not the workpiece that is moved, but the resonator. The axes are moved via the joystick, the touch display, or the AL-DRIVE\* control unit. The angle of the display unit can be adjusted or it can even be removed completely from the holder for free placement close to the welding process. The touch display gives you access to several apps that make welding easier:

- User coordinate system for easy welding of inclined planes
- App for surfaces and rotational parts
- Control for the ALPHA LASER wire feeder AL-DV\*



*\*pictures show optional equipment*

Practical storage trays on the laser housing keep important utensils at hand.

You configure the system according to your needs:

Optional choices include LED lenses, rotary axis, operating unit, connection for a cooling system (not necessary for normal operation), multifunctional foot switch.

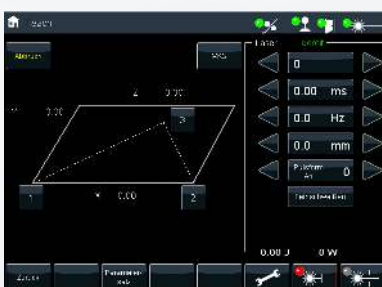
The AL-IN meets the requirements for Performance Level d.

**In summary: The AL-IN is flexible, movable, stable, versatile, retrofittable and equally suitable for small and large components.**

\*Option article against surcharge



*detachable display*



## Technical data

	AL-IN 120	AL-IN 150	AL-IN 200	AL-IN 300
<b>LASER</b>				
Laser type/wave length	Nd:YAG, 1,064 nm	Nd:YAG, 1,064 nm	Nd:YAG, 1,064 nm	Nd:YAG, 1,064 nm
Average power	120 W	150 W	200 W	300 W
Peak pulse power	9 kW	9 kW	9 kW	9 kW
Pulse energy	90 J	90 J	90 J	90 J
Pulse duration	0,5–20 ms	0,5–20 ms	0,5–20 ms	0,5–20 ms
Pulse frequency	0–50 Hz	0–100 Hz	0–100 Hz	0–100 Hz
Operating mode	pulsed			
Welding spot Ø	0.2–2.0 mm with micro welding function (optional) 0.05–0.5 mm			
Focusing objective	electable (straight or turn and tilt objective)			
Pulse shaping	Adjustability of the power curve within a laser pulse Adjustment of laser parameters additionally via multifunction switch (optional)			
Display and operation	removable touch display (for laser and motion system)			
<b>OBSERVATION LENS</b>	Leica microscope attachment with eyepieces for glasses wearers 10 ×, optional 16 ×.			
<b>POWER SUPPLY UNIT</b>				
W × D × H (basic component)	450 × 850 × 860 mm			
Weight	135 kg	150 kg		
<b>LASER BEAM SOURCE</b>				
With focusing unit (length × Ø)	990 × 120 mm		1,100 × 120 mm	
Weight	28 kg		30 kg	
<b>EXTERNAL CONNECTIONS</b>				
Electrical connection	200–240 V / 50–60 Hz / 16 A 3 × 400 V / 50–60 Hz / 3 × 16 A			
External cooling	optional			
<b>OPTIONS</b>	Turn and tiltable objective multifunctional foot switch Rotary axis module camera system Ergo wedge AL-DV laser wire feed system AL-DRIVE operating unit AL-Hub welding table			

<b>MOVEMENT SYSTEM</b>	
<b>EXTERNAL DIMENSIONS</b>	Movement system
W × D × H	950 × 1,250 × 850 mm
Weight	230 kg
<b>WORK AREA</b>	
Machine axes	X, Y, Z, rotary axis optional
Movement speed X, Y, Z	max. 25 mm/s
Movement range X, Y, Z	400 × 210 × 300 mm
<b>OPERATION</b>	Joystick
<b>OPTIONS</b>	Table top with inclined stand separate, vertically adjustable table Rotary axis with chuck



# AL-IN FIBER

STATIONARY OPEN FIBER LASER SYSTEM  
FOR WELDING



OUR STATIONARY LASER SYSTEMS ARE  
RELIABLE, ROBUST, USER-ORIENTED,  
AND POWERFUL.



AL-IN 300 F

The **AL-IN F** is composed of the **AL-F** fiber laser source combined with the X, Y, Z motion system **AL-T basis** and is available with 150, 300, 450 or 600 W. The system is characterized by its great flexibility.

# AL-IN FIBER

Equally suitable for price-conscious experts and beginners

WORK  
WITHOUT  
RESTRICTIONS.

The components can be **positioned freely under or next to the motion system**, because a wide variety of work tables can be placed in front of the lifting column or you can work directly on the pallet. A fixed table top is available as an option.



mit AL-T Basis C Variante

\*pictures show optional equipment

The resonator can be **pivoted 360° and fixed in any rotated position**. Likewise, the resonator, which rests in a slide rail, can be placed far forward or moved down or up by a tilt joint\*.

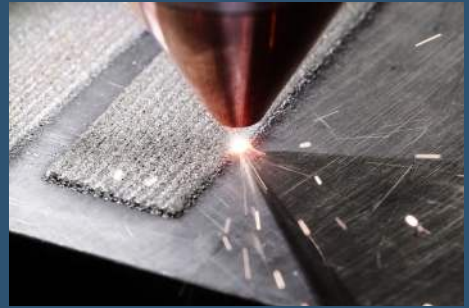
The special feature of the AL-IN Fiber is that it is not the workpiece that is moved, but the resonator. The axes are moved via the joystick, the touch display, or the AL-DRIVE\* control unit. The angle of the display unit can be adjusted or it can even be removed completely from the holder for free

placement close to the welding process. The touch display gives you access to several apps that make welding easier:

- User coordinate system for easy welding of inclined planes
- App for surfaces and rotational parts
- Control for the ALPHA LASER wire feeder AL-DV\*

\*Option article against surcharge

The AL-IN Fiber can also be used for **powder deposition welding**. All you need to do is attach the AL-FLOW Powder nozzle and the AL-PF powder feeder.



You configure the system according to your needs:

Optional choices include LED lenses, rotary axis, operating unit, connection for a cooling system (not necessary for normal operation), multifunctional foot switch.

The AL-IN Fiber meets the requirements for Performance Level d.



detachable display



„Manual“ window



„Circular Welding“ window



„Teach“ window

**In summary: The AL-IN Fiber is flexible, movable, stable, versatile, retrofittable and equally suitable for small and large components.**



Find out more in our product video



## TECHNICAL DATA

### FIBER LASER POWER (WATT)

# 150 300 450 600



The system meets the high safety standards for performance level d.

	AL-IN 150 F	AL-IN 300 F	AL-IN 450 F	AL-IN 600 F
<b>LASER</b>				
Laser type/wave length	Fiber laser, 1,070 nm	Fiber laser, 1,070 nm	Fiber laser, 1,070 nm	Fiber laser, 1,070 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	0.2–50 ms/CW			
Pulse frequency	single pulse–100 Hz			
Beam parameter product at 50 µm	2–3 mm * mrad			
Operating modes	pulsed/CW			
Welding spot Ø	0.2–3 mm, optional 0.1–4 mm			
Focusing objective	150 mm, further according to lens data sheet			
Pulse shaping	Adjustability of the power curve within a laser pulse Adjustment of laser parameters additionally via multifunction switch (optional)			
Display and operation	Setting of the laser parameters via touch screen and multifunctional foot switch. Control of AL-T Basic C via Laser-touchscreen.			
<b>OBSERVATION LENS</b>	Leica microscope attachment with eyepieces for glasses wearers 10 ×, optional 16 ×			
<b>EXTERNAL CONNECTION</b>				
Electrical connection	200–240 V / 50–60 Hz / 16 A			
System cooling	air-cooled <b>AL 450 F, AL 600 F:</b> also available with water cooling			
<b>OPTIONS</b>	Turn-tilt-objective   <b>AL-IN 450 F-600 F:</b> AL-FLOW Powder   multifunctional footswitch rotating axis with chuck   camera system   ergo-wedge   AL-DV programmable laser wire feeder AL-DRIVE   AL-Hub work bench			
<b>MOVEMENT SYSTEM FOR AL-IN</b>				
<b>EXTERNAL DIMENSIONS</b>				
W × D × H	950 × 1,250 × 850 mm			
Weight	230 kg			
<b>WORK AREA</b>				
Machines axes	X, Y, Z, rotary axis optional			
Movement speed (X, Y, Z)	max. 25 mm/s			
Movement range (X, Y, Z)	400 × 210 × 300 mm			
Operation	Joystick			
<b>OPTIONS</b>	Table top with inclined stand   separate, vertically adjustable table   rotary axis with chuck, tilt joint   sealing air   optical water cooling <b>(AL-IN 600 F:</b> water cooling and sealing air integrated)			

[www.alphalaser.eu](http://www.alphalaser.eu)

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