

ALM

The unique mobile one



Technical Data	ALM 150 mobil	ALM 200 mobil
Laser		
Wavelength	1064 nm	1064 nm
Average power	150 W	200 W
Peak pulse power	10 kW	9 kW
Pulse energy	100 mJ – 100 J	100 mJ – 100 J
Pulse duration	0.5–20 ms	0.5–20 ms
Pulse frequency	Single pulse - 20/30 Hz	Single pulse - 20 /30Hz
Welding spot Ø	0.2–2 mm	0.2–2 mm
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 binocular with eyepieces for spectacle wearers, tiltable and rotatable		
Working range		
open system motorised motion system Movement of the arm/processing head can be carried out manually or motor driven under joystick control		
x, y:	120 x 120 mm,	
z:	1200 mm	
Lowest working position	450 mm	
Highest working position	1500 mm	
Arm travel	1300 mm	
Mechanical dimensions		
L x W x H	1400 x 730 x 1505 mm	1400 x 730 x 1505 mm
Weight	approx. 290 kg	approx. 290 kg
Electrical supply		
3 x 400 V / 50–60 Hz / 3 x 16 A / 8 kW		
Cooling		
air cooled with internal cooling water circuit		
Options		
<ul style="list-style-type: none"> > Turn-and-tilt optics > Tilttable turntable with chuck for horizontal to vertical rotation > Remote control > TV system for demonstrating and observing the welding process 		

ALMax

The big mobile one



Technical Data	ALMax 200 mobil
Laser	
Wavelength	1064 nm
Average power	200 W
Peak pulse power	9 kW
Pulse energy	100 mJ – 100 J
Pulse duration	0.5–20 ms
Pulse frequency	Single pulse - 20/30 Hz
Welding spot Ø	0.2–2 mm
Focussing lens	150 mm
Pulse shaping	adjustable power shaping within the laser pulse
Control	user-specific operation with up to 128 parameter sets
Viewing optics	
Leica binocular with eyepieces for spectacle wearers, tiltable and rotatable	
Working range	
open system motorised motion system the working head can be positioned manually anywhere in the workspace and moved using motors under joystick control	
x, y:	480 x 480 mm,
z:	380 mm
Lowest working position	800 mm
Highest working position	2200 mm
Arm travel	1500 mm
Mechanical dimensions	
L x W x H	1450 x 1300 x 2000 mm
Weight	approx. 600 kg
Electrical supply	
3 x 400 V / 50–60 Hz / 3 x 16 A / 8 kW	
Cooling	
air cooled with internal cooling water circuit	
Options	
<ul style="list-style-type: none"> > Turn-and-tilt optics > Tilttable turntable with chuck for horizontal to vertical rotation > Remote control > TV system for demonstration and observation of the welding process 	



K.K.3A-SANGYO

3-21-6, Midori, Sumida-ku Tokyo, Japan 130-0021

TEL: +81-3-3635-5151 FAX: +81-3-3635-5150

E-mail: tokyo@3a-sangyo.co.jp

URL: <http://www.3a-sangyo.co.jp>



Laser welding tools

- ▶ precise
- ▶ fast
- ▶ flexible



Visions become
Innovations



AL

The compact and powerful one

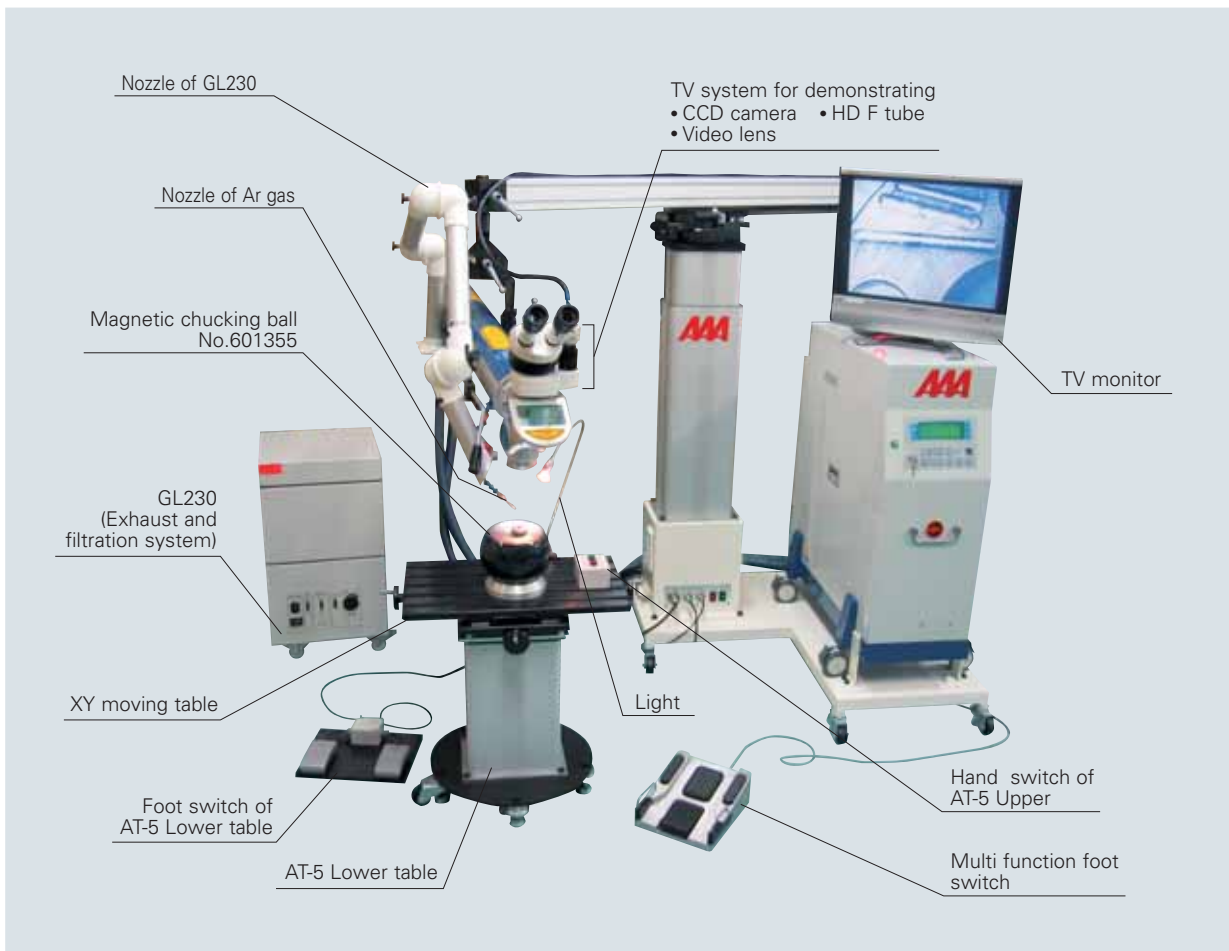
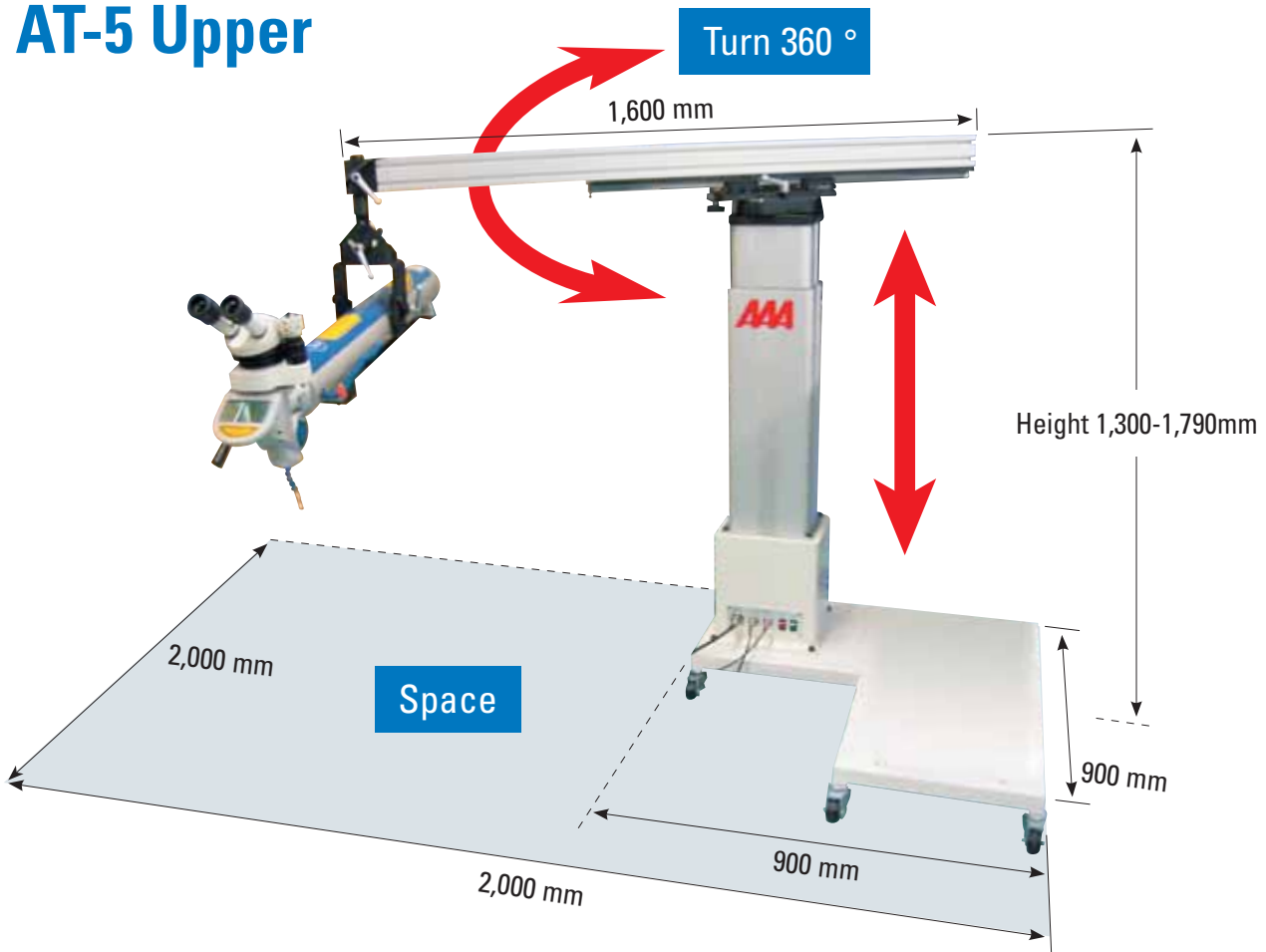
The AL series provides the right laser power for every welding job. It is the ideal partner for the ALT laser work table, but it can also be easily integrated into existing machine installations. The movable laser head can be positioned to suit the welding task. The innovative turn-and-tilt optics further reduces laser set-up time on the tool or mould.



Technical Data	AL 75	AL 120	AL 150	AL 200	AL 300
Laser					
Wavelength	1064 nm	1064 nm	1064 nm	1064 nm	1064 nm
Average power	75 W	120 W	150 W	200 W	300 W
Peak pulse power	5 kW	9 kW	10 kW	9 kW	10 kW
Pulse energy	50 mJ – 50 J	100 mJ – 75 J	100 mJ – 100 J	150 mJ – 80 J	80 J
Pulse duration	0.5–20 ms	0.5–20 ms	0.5–20 ms	0.5–20 ms	0.1–20 ms
Pulse frequency	single pulse - 20/30 Hz		single pulse - 20/30 Hz		100 Hz
Welding spot Ø	0.2 – 2.0 mm	0.2 – 2.0 mm	0.2 – 2.0 mm	0.2 – 2.0 mm	0.2 – 2.0 mm
Pulse shaping	adjustable power-shaping within a laser pulse				
Control	user-specific operation with up to 128 parameter sets				
Focussing lens	150 mm	150 mm	150 mm	150 mm	150 mm
Viewing optics					
	Leica binocular with eyepieces for spectacle wearers				
Power supply					
Dimensions (L x W x H)	820 x 400 x 910 mm	820 x 400 x 910 mm	820 x 400 x 910 mm	820 x 400 x 910 mm	1026 x 700 x 938 mm
Weight	approx. 98 kg	approx. 98 kg	approx. 98 kg	approx. 98 kg	approx. 130 kg
Laser beam source					
with focussing unit (length x dia.)	900 x 120 mm	900 x 120 mm	900 x 120 mm	1100 x 120 mm	1100 x 120 mm
Weight	approx. 18 kg	approx. 18 kg	approx. 18 kg	approx. 20 kg	approx. 20 kg
Electrical supply					
	200–240 V / 50–60 Hz / 16 A		3 x 400V / 3 x 16A / 50–60 Hz / N, PE		
Cooling					
	air cooled with internal cooling water circuit, no additional external cooling necessary				air cooled with internal cooling water circuit, additional cooling if needed
Options					
	<ul style="list-style-type: none"> > Micro-welding > Turn-and-tilt optics > Rotary welding optics: special device for circular weld seams > TV system for demonstrating and observing the welding process > Tilttable turntable with chuck for horizontal to vertical rotation > Focussing lenses with various focal lengths 				

1 Automated bond welding of a 5-cornered knob
 2 Bond welding of a stainless steel profile, material thickness 0.8 mm
 3 Bond welding of a tube to an expansion joint, stainless-steel components with material thickness 0.1 mm

AT-5 Upper



ALV

The compact and versatile one



Technical Data	ALV 100	ALV 150
Laser		
Laser crystal	Nd: YAG	Nd: YAG
Wavelength	1064 nm	1064 nm
Average power	100 W	150 W
Pulse energy	75 J	75 J
Peak pulse power	9 kW	9 kW
Pulse duration	0.5–20 ms	0.5–20 ms
Pulse frequency	single pulse - 20/30 Hz	single pulse - 20/30 Hz
Welding spot Ø	0.2–2.0 mm, continuously variable	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 binocular 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 L	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
Positioning path	z: 250 mm x, y: 100 x 100 mm	z: 250 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 circuit	
Options		
	<ul style="list-style-type: none"> > digital version for fully automatic CNC welding operation via programming, teaching in or CAD data 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 workpieces > TV system for demonstrating and observing the welding process 	

ALW

The spacious one



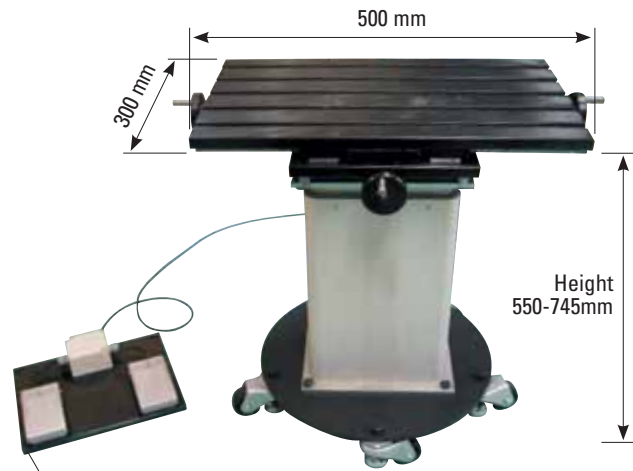
Technical Data	ALW 100	ALW 150
Laser		
Laser crystal	Nd: YAG	Nd: YAG
Wavelength	1064 nm	1064 nm
Average power	100 W	150 W
Pulse energy	100 mJ – 75 J	100 mJ – 100 J
Peak pulse power	9 kW	10 kW
Pulse duration	0.5–20 ms	0.5–20 ms
Pulse frequency	single pulse - 20/30 Hz	single pulse - 20/30 Hz
Welding spot Ø	0.2–2.0 mm, continuously variable	0.2–2.0 mm, continuously variable
Focussing lens	150 mm	150 mm
Pulse shaping	adjustable power-shaping within the laser pulse	
Control	user-specific operation with up to 128 parameter sets	
Viewing optics		
	Leica trinocular with eyepieces for spectacle wearers, tiltable, connection for CCD camera	
Working compartment		
Working compartment L x W x H	800 x 850 x 500 mm	800 x 850 x 500 mm
Working plate W x L	600 x 600 mm	600 x 600 mm
Workpiece weight	350 kg max., central	350 kg max., central
Workpiece motion	motorised, via joystick	motorised, via joystick
Positioning path	z: 400 mm x, y: 200 x 200 mm	z: 400 mm x, y: 200 x 200 mm
Mechanical dimensions		
L x W x D	920 x 1220 x 1570 mm	920 x 1220 x 1570 mm
Weight	approx. 380 kg	approx. 380 kg
Electrical supply		
	3 x 400 V, 50–60 Hz, 3 x 16 A	3 x 400 V, 50–60 Hz, 3 x 16 A
Cooling		
	air cooled with internal cooling water circuit	
Options		
	<ul style="list-style-type: none"> > CNC control with CAD data input for automatic operation for manufacturing serial parts (WIN Laser SW) > Micro-welding > Coaxial lighting for optimal illumination of cavities in the workpiece > tiltable turntable with chuck for horizontal to vertical turning > Magnetic workpiece, clamping for free positioning of workpieces > TV system for demonstrating and observing the welding process 	

GL230 Exhaust and filtration system



Application range
Adhesive and moist dust,
laser emissions,
soldering vapour,
solvent and gluing vapours.
Dimensions (HxWxD) : 700x350x440
Weight : 45kg
Air flow (free blow) : 390m³/h
Effective air flow : 160-330m³/h
Noise level : ca.51db(A)
Voltage frequency : AC100-230 50/60HZ

AT-5 Lower table



XY moving table

Foot switch of AT-5
Lower table

Magnetic chucking ball No.601356



Magnetic chucking ball No.601355



Magnetic chucking ball No.601350

