A-A Series

Entry-level 5 ft x 10 ft fiber laser cutter

Ascent Lasers Pro
Cut. Weld. Clean. Powered by light



3 kW / 6 kW
LASER SOURCE

120 x 60 in
3048 x 1524 mm (10 x 5 ft)
WORKING AREA

328 ft/min
100 m/min
MAX. LINKAGE SPEED

1.5 G
MAX. ACCELERATION

Features

Gantry cover
An enclosure with OD 6+ laser protection glass is built around the crossbeam, and it cuts down noise and smoke at the head.

Camera in the crossbeam
A built-in camera sends a live high-definition picture of the cut to the screen.

Remnant layout
From uploaded pictures of a leftover sheet, the machine positions and nests parts on it automatically.

Modular worktable
A single section can be replaced or repaired on its own.

Zoned dust removal and smoke extraction
Airflow is divided across sections, so fumes and dust are drawn out where the machine is cutting.

Safety light curtains
They stand around the machine. If someone enters the cutting area, the machine stops at once.

Cutting parameter AutoMatch
The operator compares samples on the screen and clicks, and the system guides the parameter adjustment.

Active obstacle avoidance
Sensors in the laser head detect an obstacle such as a tilted part, and the head avoids it.

Anti-burning mineral casting plate
The modular plate separates slag automatically and is easy to replace.

Neat cable harness
The cable assembly keeps power levels separated to reduce interference.

Ascent Lasers Pro | 1-800-927-5107 ext. 1008 | info@ascentlaserspro.com | ascentlaserspro.com
Some functions and components are optional. Specifications and appearance may change without notice. The drawings and data shipped with the machine prevail.

Technical data

Laser source	3 kW or 6 kW
Working area	3048 x 1524 mm (120 x 60 in, 10 x 5 ft)
Max. linkage speed	100 m/min (328 ft/min)
Max. acceleration	1.5 G
Positioning accuracy	±0.05 mm/m (±0.00197 in/m)
Repositioning accuracy	±0.03 mm (±0.00118 in)
Z-axis travel	100 mm (3.94 in)
Table	Single platform
Table load	911 kg (2,008 lb), a 25 mm (1 in) sheet
Machine size (L x W x H)	4749 x 2886 x 1815 mm (15.6 x 9.5 x 6.0 ft)
Machine weight	1520 kg (3,351 lb)
Total power and current, 3 kW source	16.6 kW / 43.1 A
Total power and current, 6 kW source	29.1 kW / 55.3 A
Average power use per hour, 3 kW source	10.4 kWh
Average power use per hour, 6 kW source	15.7 kWh
Thinnest sheet	0.8 mm (0.0315 in)
Screen	21.5 in

With optional post-scan equipment, the machine stands 2120 mm (7.0 ft) high.

Standard equipment

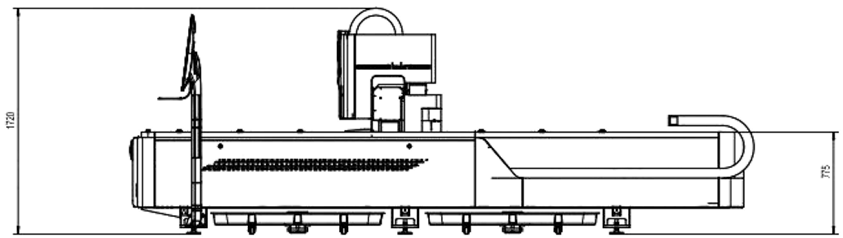
Laser source	x1	**Water chiller**	x1
Laser head	x1	**Welded bed, mortise-and-tenon structure**	
Control system	x1	**Crossbeam**	x1
Driver		**Zoned dust removal and smoke extraction**	

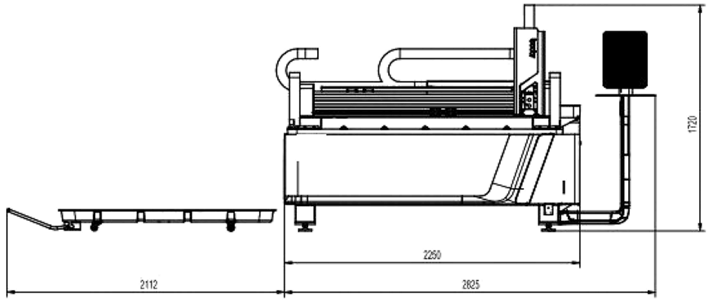
Available options

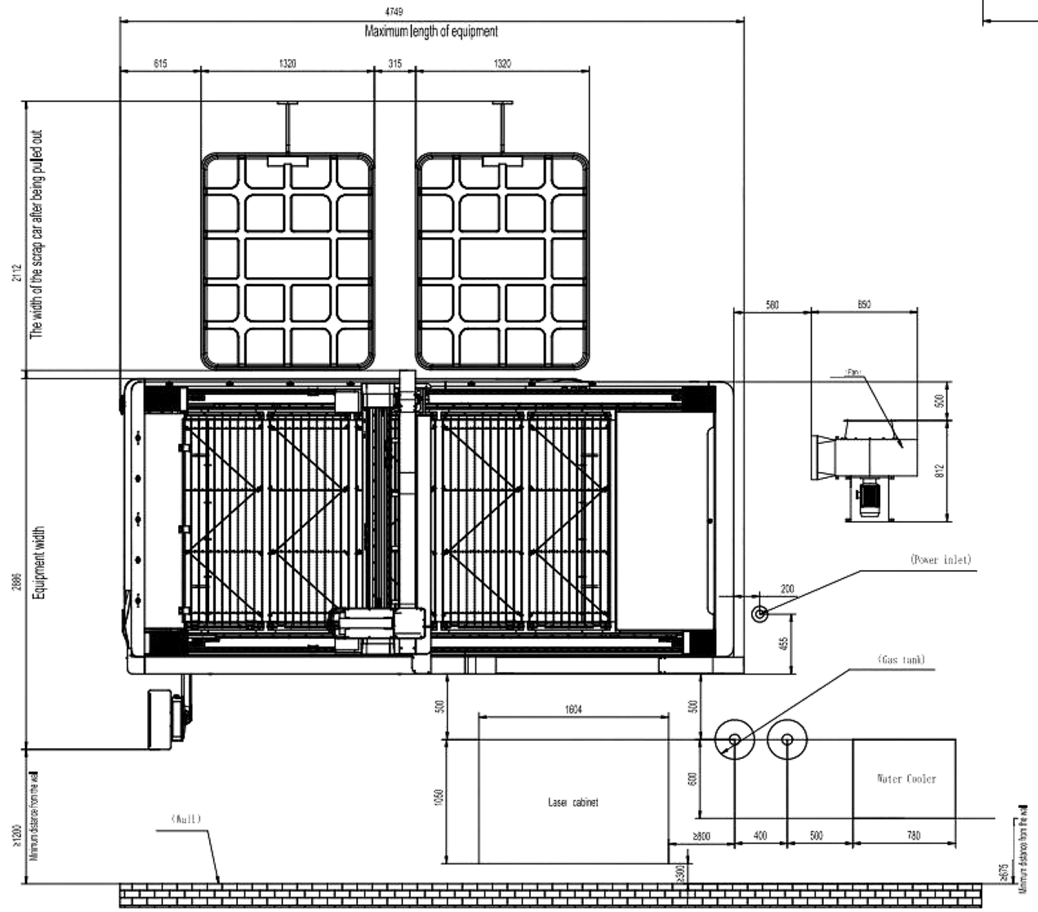
- ☐ Air compressor
- ☐ Sheet loading module
- ☐ Nesting software
- ☐ Centrifugal fan
- ☐ Enhanced-partition dust removal
- ☐ Laser head high-pressure filter (6 kW)
- ☐ Voltage stabilizer
- ☐ Fume filter
- ☐ Nitrogen proportioning valve (6 kW and below)
- ☐ Post-scan equipment

Some functions and components are optional. Specifications and appearance may change without notice. The drawings and data shipped with the machine prevail.

Site layout A-A Series. Dimensions in mm (25.4 mm = 1 in).







Layout requirements

1. Keep the machine away from sources of vibration.
2. Floor flatness must not exceed 5 mm (0.2 in).
3. Supply voltage fluctuation must not exceed 5%.
4. Keep at least 1 m (39 in) between the machine and surrounding obstacles.
5. Place the fan and gas connections where they do not get in the way of using the machine.
6. A voltage stabilizer is a non-standard option. Ask if you need one.
7. The 6 kW source uses a separate laser cabinet. The 3 kW source is built in.
8. The drawing is for reference, and you can arrange the layout to suit your shop. The drawing shipped with the machine prevails.

Some functions and components are optional. Specifications and appearance may change without notice. The drawings and data shipped with the machine prevail.

Cutting parameters A-A Series (3 kW / 6 kW)

Reference table of laser cutting process parameters

Material	Power	Thickness mm (in)	1 (0.04)	2 (0.08)	3 (0.12)	4 (0.16)	5 (0.20)	6 (0.24)	8 (0.31)	10 (0.39)	12 (0.47)	14 (0.55)	16 (0.63)	18 (0.71)	20 (0.79)	25 (0.98)	30 (1.18)
Carbon steel (Q235A) O2	6000 W	Speed m/min (ft/min)	—	—	3–4.5 (9.8–15)	2.7–4 (8.9–13)	2.5–3.6 (8.2–12)	2.1–3.3 (6.9–11)	1.8–3 (5.9–9.8)	1.5–2.5 (4.9–8.2)	1.2–2.1 (3.9–6.9)	1–1.8 (3.3–5.9)	0.7–1.5 (2.3–4.9)	0.6–1.2 (2.0–3.9)	0.5–0.8 (1.6–2.6)	0.2–0.55 (0.7–1.8)	0.2–0.3 (0.7–1.0)
	3000 W		—	3.5–6 (11–20)	2.7–4 (8.9–13)	2.6–3.5 (8.5–11)	2.5–3.2 (8.2–10)	2–2.6 (6.6–8.5)	1.6–1.8 (5.2–5.9)	1.4–1.6 (4.6–5.2)	1–1.4 (3.3–4.6)	0.8–0.9 (2.6–3.0)	0.7–0.8 (2.3–2.6)	0.6–0.7 (2.0–2.3)	0.5–0.6 (1.6–2.0)		
Stainless steel (201) N2	6000 W	Speed m/min (ft/min)	42–55 (138–180)	20–33 (66–108)	15–22 (49–72)	10–15 (33–49)	7–12 (23–39)	4.8–9 (16–30)	3–4 (9.8–13)	1.6–2.5 (5.2–8.2)	0.8–1.5 (2.6–4.9)	0.6–1.2 (2.0–3.9)	0.5–1 (1.6–3.3)	0.4–0.8 (1.3–2.6)	0.3–0.6 (1.0–2.0)	0.2–0.4 (0.7–1.3)	
	3000 W		30–50 (98–164)	12–30 (39–98)	6–10 (20–33)	4–6 (13–20)	3–5 (9.8–16)	2–3.2 (6.6–10)	1–1.8 (3.3–5.9)	0.5–0.85 (1.6–2.8)	0.4–0.5 (1.3–1.6)						
Aluminum N2	6000 W	Speed m/min (ft/min)	42–55 (138–180)	20–40 (66–131)	15–25 (49–82)	9.5–12 (31–39)	5–8 (16–26)	3.8–5 (12–16)	2–2.5 (6.6–8.2)	1–1.5 (3.3–4.9)	0.9–1.3 (3.0–4.3)	0.8–1.2 (2.6–3.9)	0.5–0.8 (1.6–2.6)	0.4–0.7 (1.3–2.3)	0.3–0.6 (1.0–2.0)		
	3000 W		25–30 (82–98)	13–20 (43–66)	6.5–7.5 (21–25)	3.5–5 (11–16)	2.5–3.5 (8.2–11)	1.5–2.5 (4.9–8.2)	0.7–1 (2.3–3.3)								
Brass N2	6000 W	Speed m/min (ft/min)	35–45 (115–148)	20–30 (66–98)	12–18 (39–59)	8–12 (26–39)	6–8 (20–26)	3–6.5 (9.8–21)	1.6–2.2 (5.2–7.2)	0.8–1.2 (2.6–3.9)	0.3–0.5 (1.0–1.6)	0.3–0.5 (1.0–1.6)					
	3000 W		20–30 (66–98)	6–10 (20–33)	3–8 (9.8–26)	2.5–4 (8.2–13)	1.5–2 (4.9–6.6)	1–1.8 (3.3–5.9)									

Laser cutting air process parameter reference table (Air Compressor)

Material	Power	Thickness mm (in)	1 (0.04)	2 (0.08)	3 (0.12)	4 (0.16)	5 (0.20)	6 (0.24)	8 (0.31)	10 (0.39)	12 (0.47)	14 (0.55)	16 (0.63)	18 (0.71)	20 (0.79)	25 (0.98)	30 (1.18)
Carbon steel (Q235A)	6000 W	Speed m/min (ft/min)	42–52 (138–171)	20–25 (66–82)	10–20 (33–66)	8–15 (26–49)	6–10 (20–33)	5–8 (16–26)	2.5–4.5 (8.2–15)								
	3000 W		40–45 (131–148)	12–15 (39–49)	6–8 (20–26)	4–6 (13–20)											
Stainless steel (304)	6000 W	Speed m/min (ft/min)	38–60 (125–197)	22–38 (72–125)	15–22 (49–72)	12–16 (39–52)	8–12 (26–39)	4.8–9 (16–30)	3–5.5 (9.8–18)	2–3.5 (6.6–11)	1.2–2.3 (3.9–7.5)	0.8–1.6 (2.6–5.2)	0.8–1.4 (2.6–4.6)	0.6–1 (2.0–3.3)	0.3–0.5 (1.0–1.6)	0.2–0.4 (0.7–1.3)	
	3000 W		35–50 (115–164)	15–25 (49–82)	10–15 (33–49)	5–8 (16–26)	3.5–5.5 (11–18)	2–4 (6.6–13)	1.5–2 (4.9–6.6)	0.6–1 (2.0–3.3)	0.4–0.6 (1.3–2.0)						
Aluminum	6000 W	Speed m/min (ft/min)	35–45 (115–148)	20–30 (66–98)	15–25 (49–82)	6–15 (20–49)	5–8 (16–26)	3–5 (9.8–16)	2–2.5 (6.6–8.2)	1–1.5 (3.3–4.9)	0.8–1.3 (2.6–4.3)	0.7–1.2 (2.3–3.9)	0.5–0.8 (1.6–2.6)	0.4–0.7 (1.3–2.3)			
	3000 W		25–35 (82–115)	10–15 (33–49)	6–8 (20–26)	3.5–5 (11–16)	2.5–3.5 (8.2–11)	1.5–2.5 (4.9–8.2)	0.7–1 (2.3–3.3)								
Brass	6000 W	Speed m/min (ft/min)	35–45 (115–148)	20–30 (66–98)	12–18 (39–59)	5–8 (16–26)	4.5–6 (15–20)	3–4.5 (9.8–15)	1.6–2.2 (5.2–7.2)	0.8–1.2 (2.6–3.9)	0.2–0.4 (0.7–1.3)	0.3–0.5 (1.0–1.6)					
	3000 W		20–35 (66–115)	6–10 (20–33)	4–6 (13–20)	3–5 (9.8–16)	1.5–2 (4.9–6.6)	1–1.8 (3.3–5.9)	0.5–0.7 (1.6–2.3)								

Units. Thickness is in mm, with inches in brackets. Speed is in m/min, with ft/min in brackets (1 m/min = 3.28 ft/min).

Note: For reference only. On-site conditions such as material quality and gas quality can change the results significantly, so these figures cannot be used as a basis for product acceptance or quality traceability.

Materials in the white-shaded areas are at the processing limit: efficiency and quality drop, and continuous cutting is not possible. Materials in the gray-shaded areas can be cut stably in batch production. A listed thickness is not necessarily the maximum the machine supports across its full working area.

Optional air compressor



With an air compressor, the A-A Series can cut with compressed air.

The cutting parameters page lists the air cutting speeds.

Optional sheet loading module



Modular design

Easy to install

Manual control with key operation

Automatic braking

Sheet size range	400 x 400 mm to 1524 x 3048 mm (15.7 x 15.7 in to 60 x 120 in)
Sheet thickness range	1 to 8 mm (0.04 to 0.31 in)
Maximum loading weight	300 kg (661 lb)
Module size	3655 x 2200 x 3422 mm (12.0 x 7.2 x 11.2 ft)

Warranty and what is included

- 5 years on the laser head, the laser source and the control system
- 3 years on the entire system
- Shipping, on-site installation and training included in the price
- Free ongoing software updates and lifetime remote technical support, with technicians in Buffalo, Toronto and Kentucky
- Ascent laser complies with applicable FDA laser product requirements. ETL-certified.

Each machine's warranty agreement sets out the full terms.

Talk to us about your work. Tell us what metals you cut, how thick they are and how much floor space you have, and we will prepare a quote. Call 1-800-927-5107 ext. 1008 or email info@ascentlaserspro.com.

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