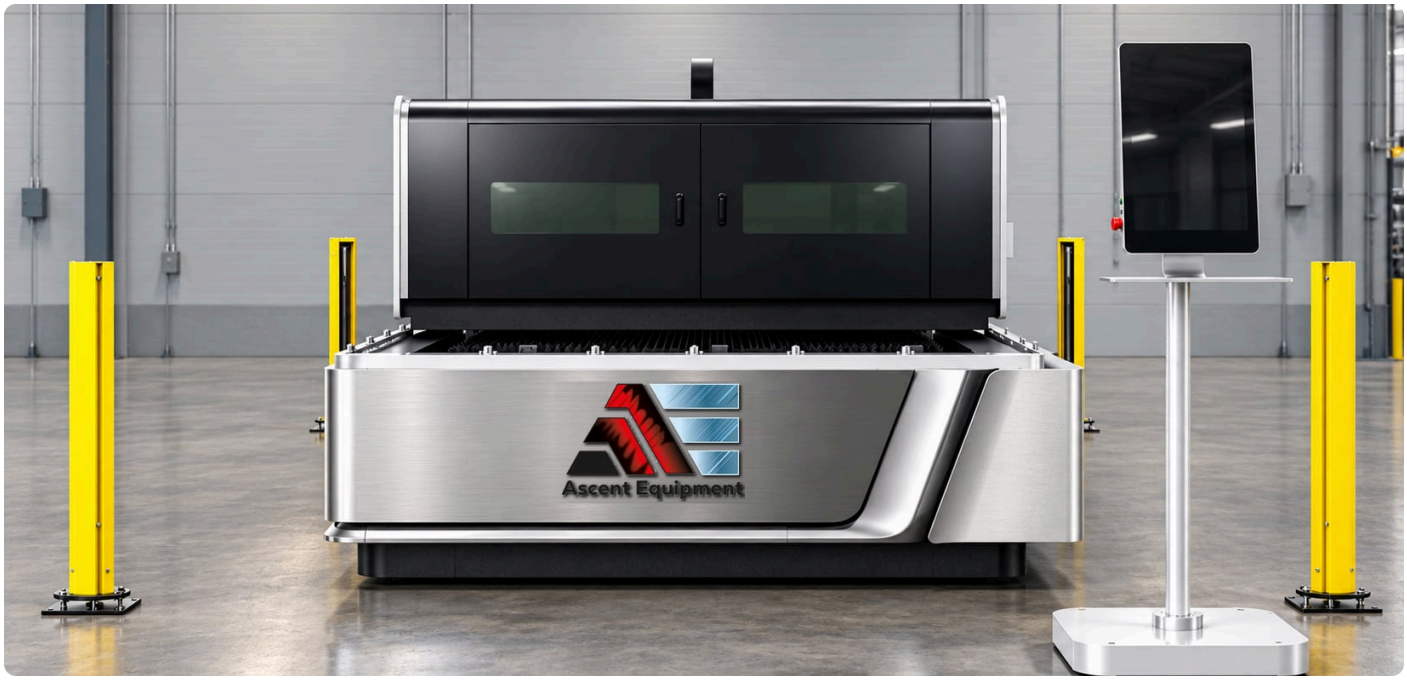
A-A Series

Economical, entry-level 5x10 ft laser cutter

Ascent Equipment



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
The crossbeam travels inside a cover fitted with OD 6+ laser protection glass, which also keeps noise and smoke down at the cutting head.

Crossbeam camera
The operator watches the cut live, in high definition, on the screen.

Remnant layout
Photograph an offcut and upload it, and the machine locates the piece and nests parts onto it.

Modular worktable
Swap or repair one section and leave the rest alone.

Zoned extraction
Airflow splits by section, pulling dust and smoke from the zone being cut.

Light curtains
Posts around the machine create a safety field. Step into the cutting area and the machine halts immediately.

Cutting parameter AutoMatch
Compare test cuts on the screen, click the closest one, and the system walks you through the settings.

Active obstacle avoidance
If a cut part tips up, sensors in the head spot it and steer around it.

Mineral casting plate
This anti-burning plate comes in modules, sheds slag on its own and swaps out easily.

Cable harness
Tidy routing keeps power levels apart, which cuts down on interference.

Ascent Equipment | 1-800-927-5107 ext. 1008 | 647-494-7800 ext. 1008 | ascentequipment.com
Not every function or component shown here is on the standard machine. We may change specifications and appearance without notice. What ships with your machine, including its drawings and data, governs.

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

Adding the optional post-scan equipment raises the machine to 2120 mm (7.0 ft).

Standard equipment

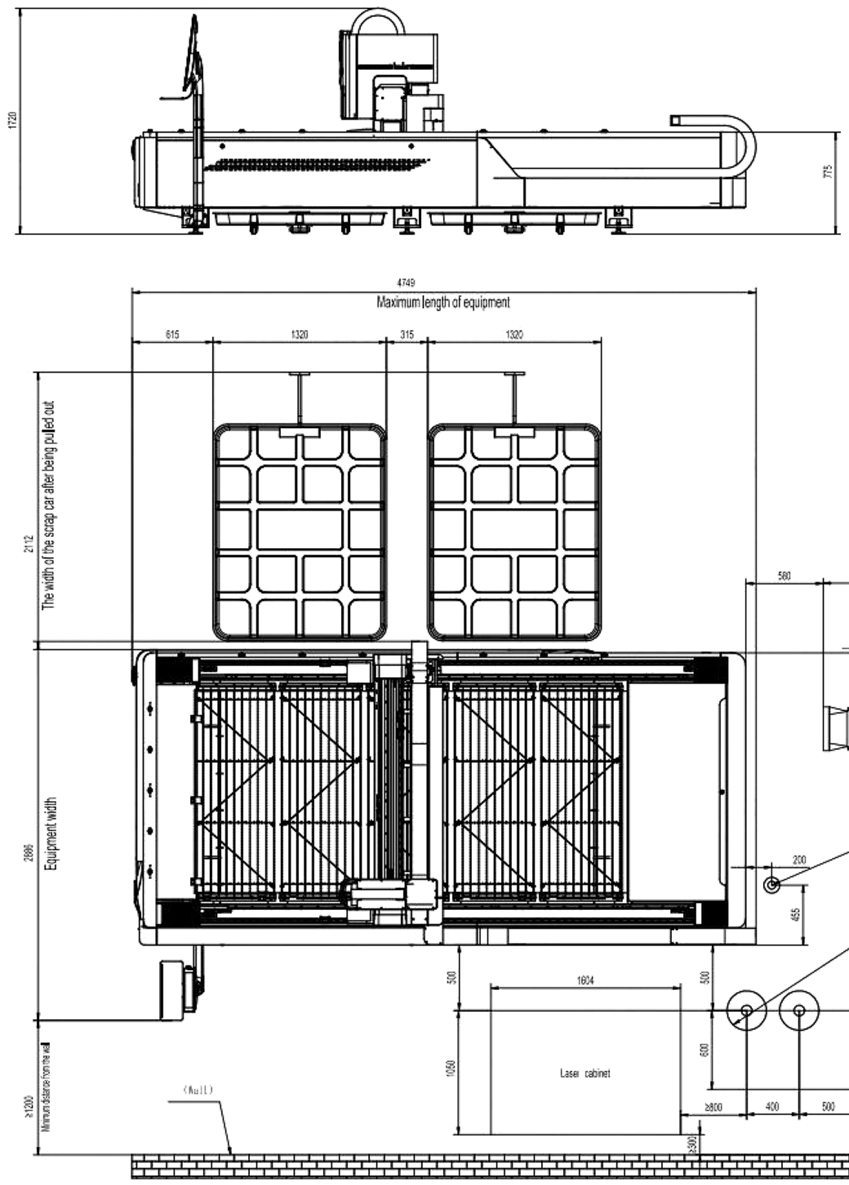
- **Laser source** x1
- **Laser head** x1
- **Control system** x1
- **Driver**
- **Water chiller** x1
- **Welded bed, mortise-and-tenon structure**
- **Crossbeam** x1
- **Zoned dust removal and smoke extraction**

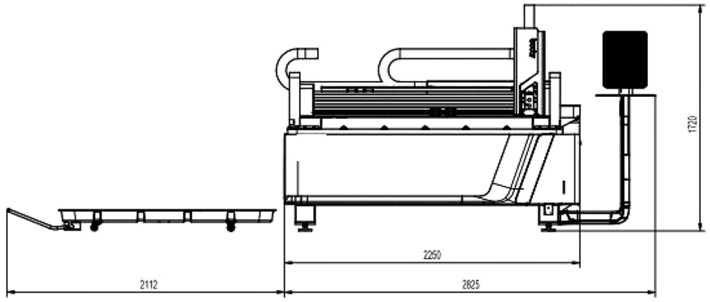
Available options

- ☐ 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

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Floor plan A-A Series. Dimensions in mm (25.4 mm = 1 in).





Setting up the machine

1. Set the machine well away from anything that vibrates.
2. The floor needs to stay flat to within 5 mm (0.2 in).
3. Supply voltage has to hold steady to within 5%.
4. Leave 1 m (39 in) or more clear between the machine and anything nearby.
5. Put the fan and gas hookups where they stay out of the operator's way.
6. If your supply needs a voltage stabilizer, ask us. It is not standard.
7. A 6 kW source sits in its own laser cabinet, while a 3 kW source is built into the machine.
8. Treat this drawing as a guide and arrange things your own way. The one supplied with your machine governs.

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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: Guide figures only. Conditions in your shop, such as the material and gas you buy, can shift them noticeably, so don't use them to accept a machine or to trace quality.

White cells mark the limit of what the machine can do: expect slower, rougher cutting, and don't plan on running them continuously. Gray cells hold up in repeat production. A thickness listed here isn't necessarily the most the machine supports across its whole bed.

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Optional air compressor



Add the air compressor and the A-A Series runs on compressed air.

Air speeds are in the second table on the cutting page.

Optional sheet loading module



Modular build

Installs easily

Run by hand with keys

Brakes on its own

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 support

- 5 years: Laser head, laser source, control system
- 3 years: Entire system
- Included: Shipping, on-site installation, and training.
- Ongoing software updates at no additional cost, and lifetime remote diagnostics and assistance, with technicians located in Buffalo, Toronto, and Kentucky
- Ascent laser equipment meets FDA/CDRH laser-product requirements. ETL-certified.

Full terms are provided in the machine's warranty agreement.

Ready to bring metal cutting in-house? Let us know which metals and thicknesses you cut and how much room you can spare, and we'll put a quote together. Call 1-800-927-5107 ext. 1008 or visit ascentequipment.com/contact.

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