AO Metal

LASER POWDER BED FUSION · DESIGNED AND BUILT IN CALIFORNIA

A50-HT METAL 3D PRINTER · 900 °C BUILD PLATE

For alloys that crack on a cooler plate.

The A50 build on an induction-heated plate that reaches 900 °C, for tool steels and refractory metals. Every process parameter stays open.

BUILD VOLUME	LASER	BUILD PLATE	POWER
Ø50 × 100 mm	300–1000 W fiber	900 °C, induction	208 V, 3 phase

Quoted
in a formal quotation



- **900 °C under the part**
  Induction heating keeps crack-prone grades hot through the whole build.
- **Three laser powers**
  300, 500 or 1000 W fiber, chosen by how fast you need to build and what you melt.
- **Same build as the A50**
  Ø50 × 100 mm, with the A50's fiber lasers and software.
- **Temperature set per job**
  The plate temperature is one more open parameter in AO Build Studio.
- **Chiller included**
  The water chiller the induction-heated module needs comes with the printer.
- **Open where it matters**
  Our own slicer, every parameter exposed, proven sets included.

MADE FOR THE ALLOYS THAT NEED HEAT. THE LIST IS OPEN.

Tool steels H13 · M300	W · Ta · Nb · Mo	Stainless 316L · 17-4PH	Inconel 625 · 718	Ti-6Al-4V · TiAl
AlSi10Mg · 6061	Cobalt chrome	CuCrZr · fiber laser	NiTi · Fe-Co-V · Mg	High-entropy alloys

AO Metal · a brand of Additive Plus · Gardena, California

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A50-HT · TECHNICAL DATA

Specifications and what it takes to run one.

128 g of 316L powder to run a set of test parts 10 mm tall.

POWDER TO START A BUILD	316L STEEL	TI-6AL-4V	ALUMINIUM
Test parts, 10 mm tall	**128 g**	**74 g**	**45 g**
A build of 20 mm parts	**256 g**	**148 g**	**90 g**
Dispenser filled to full height	**2.69 kg**	**1.55 kg**	**947 g**
Metal in the part itself — a 10 mm cube	**7.9 g**	**4.5 g**	**2.7 g**

Model	A50-HT-300	A50-HT-500	A50-HT-1000
Technology	Laser powder bed fusion (LPBF)		
Build volume	**Ø50 × 100 mm (Ø1.97 × 3.94 in)**		
Laser	300 W fiber, 1064 nm	500 W fiber, 1064 nm	1000 W fiber, 1064 nm
Laser spot size	75 µm (55 µm optional)		
Blue laser	Not offered on the HT printers		
Scan system	Galvo scan head + F-theta lens		
Max scanning speed	up to 12 m/s		
Layer thickness	15–100 µm		
Build plate heating	**Induction heated, up to 900 °C · set per job**		
Cooling	Water chiller, included		
Inert gas	Argon, < 2 L/min		
Material changeover	**about 2 hours**		
Software · file format	AO Build Studio + AO Build Slicer · STL		
Power supply	208 V, 3 phase, 60 Hz, no neutral · 60 A circuit · IEC 60309 60 A receptacle or hardwired		
Peak power, estimated	about 12.6 kW with the chiller, most of it the induction generator at full output · about 0.5 kW holding the plate at temperature		
Dimensions (W × D × H)	1890 × 810 × 1950 mm (74.4 × 31.9 × 76.8 in); 1890 × 1160 mm with the monitor arm; chiller beside it		
Weight	about 700 kg (1,540 lb)		
Price	**Quoted in a formal quotation**		

What a system comes with

- AO Build Studio and AO Build Slicer, with proven parameter sets for the alloys you order.
- Build plate, powder dispenser, filters, seals and the tools for a material change.
- A water chiller that stands beside the printer.
- **Installation and operator training,** with a named engineer on the account.
- **Warranty:** 12 months on laser, scanner, blower, motors and electrical systems.
- **Lead time:** some configurations ship from stock; built to order in 8–14 weeks. Your quotation confirms the date.

What you will also need

- **Required:** wet vacuum cleaner (explosion-proof for reactive metals) and a sieving machine.
- **Recommended:** heat-treatment furnace, bandsaw or small lathe, polishing tool.
- **Power:** 208 V three phase, 60 Hz, from a 60 A circuit, and floor space for the printer with the chiller beside it.

The line it belongs to

A30
Ø30 × 60 mm · 200 or 300 W fiber · 120 V, single phase
from $59,000

A50
Ø50 × 100 mm · 300–1000 W · optional 455 nm blue laser
from $89,000

A100
Ø100 × 100 mm · 300–1000 W · optional 455 nm blue laser
from $99,000

A50-HT
Ø50 × 100 mm · 300–1000 W · 900 °C induction-heated plate
Quoted

A100-HT
Ø100 × 100 mm · 300–1000 W · 900 °C induction-heated plate
Quoted

Copper, gold and silver need the blue laser of the A50 or A100; the HT printers run the fiber laser.

AO Metal

Designed and manufactured by Additive Plus in Gardena, California — spares, service and your engineer are all here. Tell us the alloy and the part, and we will say what an A50-HT does with it.

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