

A50 METAL 3D PRINTER

# When the alloy is the hard part.

A blue laser for copper, gold and silver, a platform that holds 900 °C, and every process parameter still open to you.

| BUILD VOLUME | LASER            | LAYER     | BLUE LASER    |
|--------------|------------------|-----------|---------------|
| Ø50 × 100 mm | 300–1000 W fiber | 15–100 µm | 450 nm, 250 W |

**from \$89,000**

300 W · 500 W and 1000 W quoted on request



- A blue laser changes the material list**  
 450 nm, 250 W. Copper, gold and silver absorb it where an infrared laser reflects.
- An experiment still costs grams**  
 128 g of steel or 74 g of titanium for a set of test parts 10 mm tall.
- Two hours to change material**  
 A full changeover, not a service visit.
- A platform that holds 900 °C**  
 250 °C as standard, 900 °C optional — crack-prone alloys stay printable.
- Open where it matters**  
 Our own slicer, every parameter exposed, proven sets included.
- The A30 process transfers unchanged**  
 The same slicer, the same controls, the same file.

SIXTEEN ALLOYS PROVEN TO DATE. THE LIST IS NOT CLOSED.

Stainless 316L · 17-4PH

Inconel 625 · 718

Ti-6Al-4V · TiAl

AlSi10Mg · 6061

Cobalt chrome

Tool steels H13 · M300

Copper · CuCrZr

W · Ta · Nb · Mo

Gold · Silver · Platinum

High-entropy alloys

# 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                  | A50-300                                      | A50-500              | A50-1000              |
|------------------------|----------------------------------------------|----------------------|-----------------------|
| Technology             | Laser powder bed fusion (LPBF)               |                      |                       |
| Build volume           | Ø50 × 100 mm                                 |                      |                       |
| Laser                  | 300 W fiber, 1064 nm                         | 500 W fiber, 1064 nm | 1000 W fiber, 1064 nm |
| Laser spot size        | 75 µm (55 µm optional)                       |                      |                       |
| Optional blue laser    | 450 nm, 250 W                                |                      |                       |
| Scan system            | Galvo scan head + F-theta lens               |                      |                       |
| Max scanning speed     | up to 12 m/s                                 |                      |                       |
| Layer thickness        | 15–100 µm                                    |                      |                       |
| Build plate heating    | 250 °C standard · 900 °C optional            |                      |                       |
| Inert gas              | Argon, < 2 L/min                             |                      |                       |
| Material changeover    | 2 hours                                      |                      |                       |
| Software · file format | AO Build Studio + AO Build Slicer · STL      |                      |                       |
| Power supply           | 110 V, 1 phase                               | 220 V, 3 phase       | 220 V, 3 phase        |
| Power consumption      | 4 kW                                         | 6 kW                 | 8 kW                  |
| Dimensions (W × D × H) | 1150 × 730 × 2050 mm (45.3 × 28.7 × 80.7 in) |                      |                       |
| Weight                 | 350 kg (772 lb)                              | 400 kg (882 lb)      | 450 kg (992 lb)       |
| Alloys proven to date  | 16+ – not a fixed list                       |                      |                       |

## 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.
- **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 is 12–16 weeks.

## 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.
- **Serviceable in your own lab**: filters, seals, hoses and recoater blades are ordinary components you can source locally.

## The line it belongs to

### A30

Ø30 × 60 mm · 200 or 300 W fiber · 110 V, single phase

**from \$59,000**

### A50

Ø50 × 100 mm · 300–1000 W · blue laser and 900 °C plate optional

**from \$89,000**

### A100

Ø100 × 100 mm · 300–1000 W · blue laser and 900 °C plate optional

**from \$99,000**

The same slicer, the same controls, the same file. A process developed on one machine transfers to the others without being rebuilt.



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 does with it.

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