

# XH-M350G

## High Volume Production Solution for Pure Copper and Copper Alloy

### Features

#### ✦ Incredible Printing Performance with Copper and Copper Alloys

Green laser enables additive manufacturing of highly reflective materials to print more effectively and efficient. It delivers a high absorption rate, and generates less spatter during printing. Finer details can be achieved due to the small spot size of green laser. The performance of the printed copper and its alloy parts are enhanced.



Electrical conductivity  $\approx 101\%$  IACS<sup>(1)</sup>



Thermal conductivity  $\approx 390\text{W}/(\text{m}\cdot\text{K})$ <sup>(1)</sup>



Density  $\geq 99.8\%$ <sup>(1)</sup>



Min.wall thickness 0.08mm

#### ✦ Fast Printing Speed in Copper and Copper Alloys

$\uparrow$  15-55cm<sup>3</sup>/h(green laser) **vs**  $\downarrow$  1.7mm<sup>3</sup>/h(infrared laser)<sup>(2)</sup>

#### ✦ Efficient Speed and Fine Details

Dual laser system, bidirectional powder coating, and equip with large layer thickness printing parameter, printing can be more efficient. Small spot size down to 40 $\mu\text{m}$ , fine details can be realized.

Note: (1) Pure copper heat treated. The test parameter can vary according to factors like printing parameter, material used.  
(2) Typical printing speed of 1kw NIR laser

M350G, with a build volume of 350\*350\*500mm, boasts a robust modular design and can be equipped with one or two green fiber lasers, available in 500W, 700W, or 1000W. The system enables efficient printing of materials like copper, copper alloys, and precious metals, which are difficult or impossible to process with infrared lasers.

The machine's modular platform gives flexibility to reproducible production and easy maintenance. Its open-source system supports extensive parameter customization and a wide range of materials. The system is open to integrate seamlessly with upstream and downstream software.

### Machine Specifications

Model	XH-M350G
Build Volume <sup>(1)</sup>	350*350*500mm
Laser Source	Continuous single-mode green fiber laser, wavelength 532nm, optional with 500W, 700W, 1000W
Focus Diameter	40-60 $\mu\text{m}$
Galvanometer	F-theta lens focusing
Scanning Speed	Up to 8m/s
Printing Speed	10-30cm <sup>3</sup> /h Single laser 15-55cm <sup>3</sup> /h Dual laser
Layer Thickness	20-120 $\mu\text{m}$
Machine Dimensions	3050*1750*2850mm
Weight	Approx. 3.9T
Materials	Pure copper, copper alloys, refractory metals, composite materials(Cu-based diamond composite, Cu-based graphene), other common metal materials

Note : (1)Height of build plate is not included.

### Applications



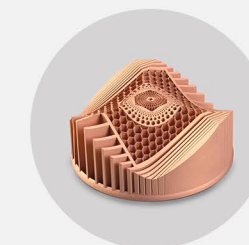
**Combustion Chamber**  
Material: CuCrZr  
Flow Channel : 1mm \* 1.35mm



**Engine Nozzle**  
Material: CuCrZr  
Bottom Blade Thickness: 0.7mm



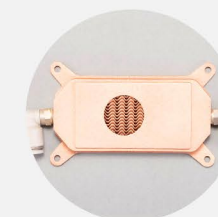
**Complex Internal Spiral Channels**  
Material: Pure copper  
Minimum Fin Wall Thickness: 0.5mm



**Copper Printed Structures**  
Material: Pure Copper  
Minimum Wall Thickness: 0.1mm  
Minimum Hole Diameter: 0.3mm



**Heat Sink Baseplate**  
Material: Pure copper



**Liquid Cold Plate**  
Material: Pure copper



**Induction coil**  
Material: Pure copper