

XH-M350G

High Volume Production Solution for Pure Copper and Copper Alloys

Features

✦ Incredible Printing Performance with Copper and Copper Alloys

Green laser enables the additive manufacturing of highly reflective materials, allowing for more effective and efficient printing. 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⁽¹⁾

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

Density $\geq 99.8\%$ ⁽¹⁾

Min.wall thickness 0.08mm

✦ Fast Printing Speed in Copper and Copper Alloys

15-55cm³/h(green laser) **vs** 6.12cm³/h(infrared laser)⁽²⁾

✦ 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 μm , 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 single 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 ⁽¹⁾	350*350*500mm
Laser Source	Continuous single-mode green fiber laser, wavelength 532nm, optional with 500W, 700W, 1000W
Focus Diameter	40-60 μm
Focusing System	F-theta lens focusing
Scanning Speed	Up to 8m/s
Printing Speed	10-30cm ³ /h Single laser 15-55cm ³ /h Dual laser
Layer Thickness	20-120 μm
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



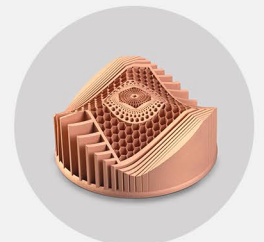
Combustion Chamber
Material: CuCrZr
Flow Channel : 1mm * 1.35mm



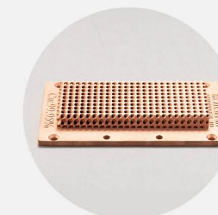
Engine Nozzle
Material: CuCrZr
Bottom Blade Thickness: 0.7mm



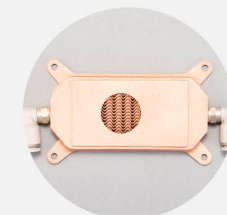
Complex Internal Spiral Channels
Material: Pure copper
Minimum Fin Wall Thickness: 0.5mm



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