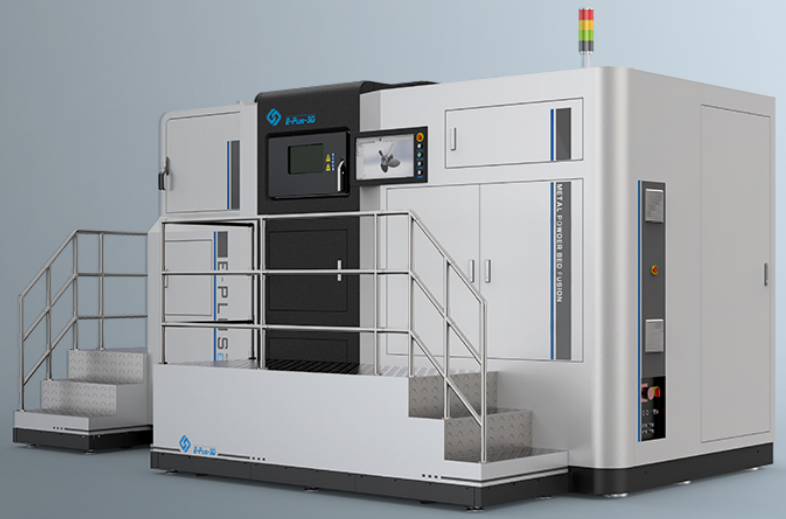
Additive Manufacturing Machine

EP-M450 Metal 3D Printer

With a building chamber size of 455*455*500mm Eplus3D Introduces EP-M450 to the successfulline of MPBF™ 3D printers. The complete open systemmakes EP-M450 a very powerful tool for large scaleproduction for our customer to access different metal powders like titanium, aluminum, nickel alloys and stainless steel, etc. EP-M450 is aiming to output the large parts with its high performance and high accuracy.

GET A QUOTE

WATCH VIDEO



EP-M450 Metal 3D Printer Features

High Quality

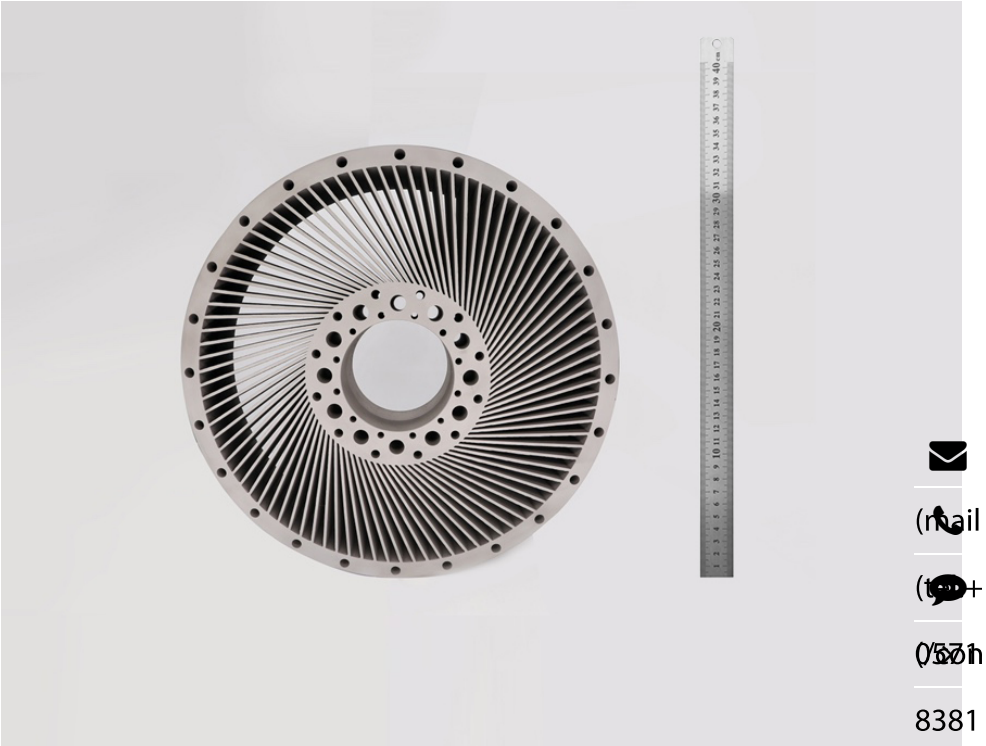
Printed parts' density > 99.9 %, deviation in parts' mechanical properties < 5 %.

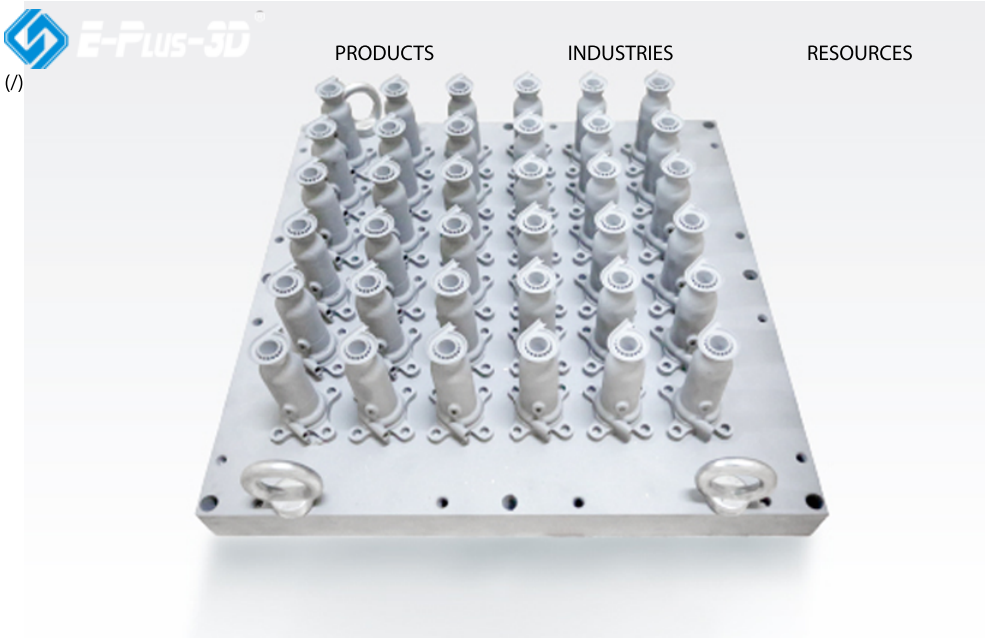
The optimized gas flow design ensures efficient removal of smoke and splashes as well as achievement of uniform and consistent full size printing.

Dynamic software with ability to divide the model into different sections like upper and lower surfaces, core areas and small areas etc. Different process parameters can be applied individually to these parts for high printed part quality.

Repeatable positional accuracy along Z-axis of building direction ≤±5 μm.

Overlapping deviation with dual laser printing ≤±0.1 mm. Overall mechanical properties of the printed part remains same when compared to printing results with the single laser machine.





High Efficiency

Build chamber size (X*Y*Z): 455*455*500 mm^3, build chamber volume > 100 L.

Printing with increased layer thickness can be realized, increasing the production capacity.

With in-house developed processing software (EP-Hatch), optimized scanning strategies can be achieved yielding reduced print duration.

Optional dual laser system with 2*500 W fiber lasers increases printing efficiency by 70 %.

Maxiumum building rate of 55 cm3/h.

Bi-directional powder re-coating method leads to reduced re-coating time.

Reliable

Excellent core optic components from world-class supplier and mature process control parameter algorithm provides highest part quality.

High quality uniform part printing due to excellent control over building environment and components.

Tightly sealed build chamber maintains oxygen concentration <100 ppm and a stable pressure during printing.

Sustained monitoring of powder left in feeder and ability to add powder without stopping the machine ensures uninterrupted part printing.

Double protection of chamber door is attained due to dual gas releasing ports on top of printing chamber.

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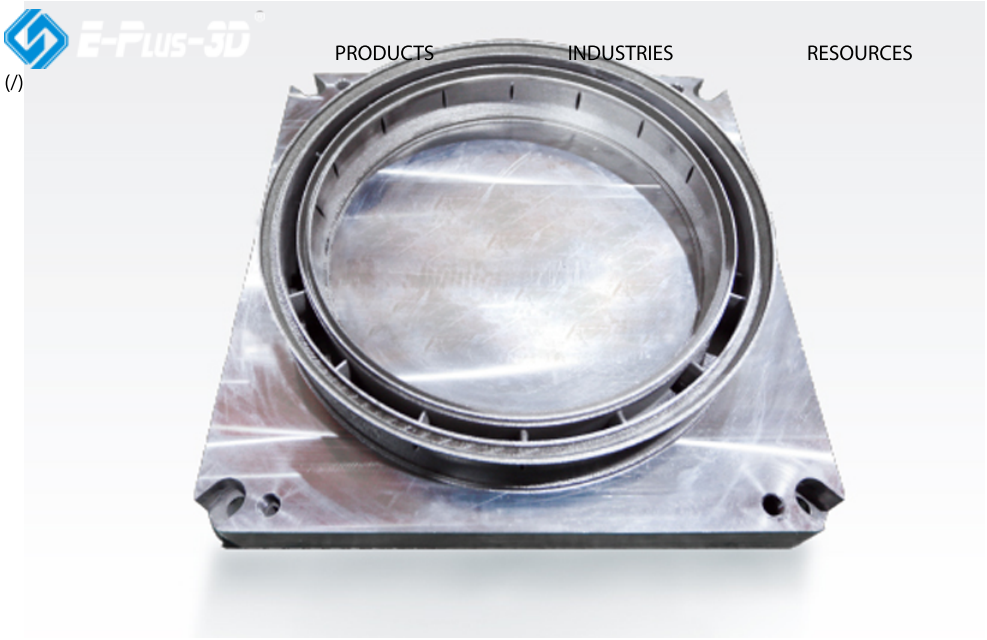


Cost-effictive & Easy Operation

Blow back enabled coarse and fine filtration system ensures prolonged lifetime of filter over 1000 hrs.

Highly user friendly software interface and one-click printing technology makes printing super simplified.

Comparability with different types of recoater blades such as ceramic, PU, alloy steel etc.

Reduced gas consumption during printing ≤6 L/min helps reducing operation cost.

Traceable print records after every print and real-time display of readings for various sensors.

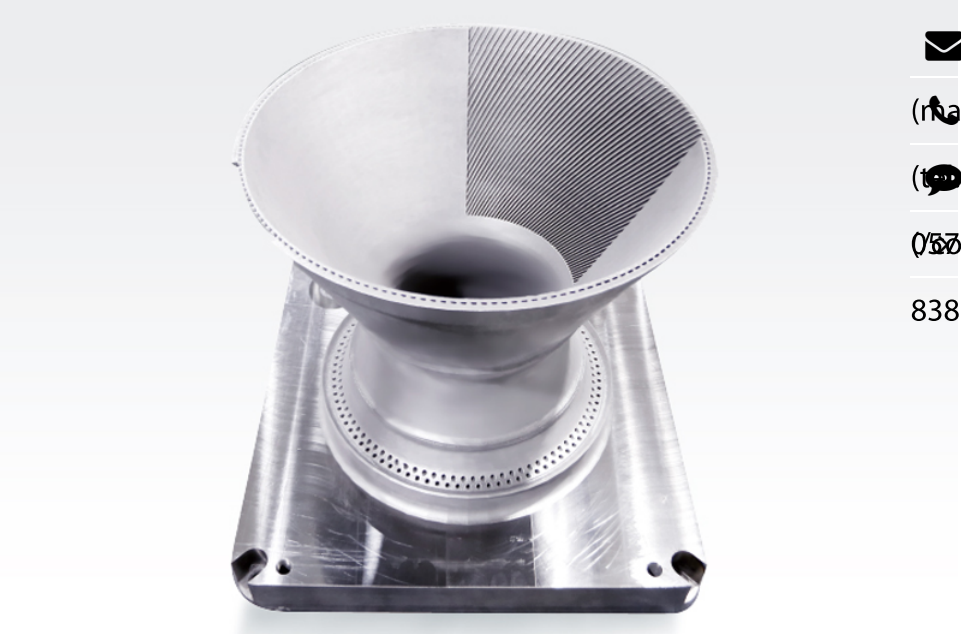
Open System

Open parameters for editing laser power, scan speed, scan direction, up and down facing surfaces etc.

Open system ensures freedom to choose among wide range of metal powders available in market.

Process software can be integrated with Siemens NX software to realize effective planning of design, simulation and printing path planning, within one software and highly improving the production efficiency.

Process software supports SLC and CLI formats.



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What can EP-M450 print?

Integral Guide

Machine: EP-M450

Process: Metal Powder Bed Fusion (MPBF)

Material: Aluminium alloy

Size: Φ400x160mm^3

Printing time: 124 h

Application: *Aerospace (https://www.eplus3d.com/additive-manufacturing-in-aerospace/)*

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Technical Specifications

Machine Model	EP-M450
Build Chamber (XxYxZ)	455*455*500 mm^3
Optical System	Fiber Laser 500W/1000W (single or dual-laser optional)
Spot Size	80-120μm
Max Scan Speed	8m/s
Layer Thickness	20-120μm
Building Speed	Single Laser: 15~35cm^3/h Dual Laser: 35~65cm^3/h
Material	Titanium Alloy, Aluminium Alloy, Nickel Alloy, Maraging Steel, Stainless Steel, Cobalt Chrome, Copper Alloy, etc.
Power Supply	380V, 46.5A, 13.3kW, 50 / 60Hz（Dual Laser:14.5kW, 53.5A）
Gas Supply	Ar/N_2
Forming chamber oxygen content	≤100ppm
Dimension (WxDxH)	5670*3700*3325 mm^3
Weight	10000kg
Software	EPLUS 3D, EPHatch
Input Data Format	STL file or another convertible format

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EP-M450 Metal 3D Printer (PDF Download) (/uploads/file/eplus-3d-ep-m450-metal-3d-printer.pdf) DOWNLOAD (/UPLOADS/FILE/EPLUS-3D-EP-M450-METAL-3D-PRINTER.PDF)

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The foregoing consents may be withdrawn at any time. For this purpose I can contact Eplus3D by an e-mail to info@eplus3d.com (mailto:info@eplus3d.com) or in any other manner.

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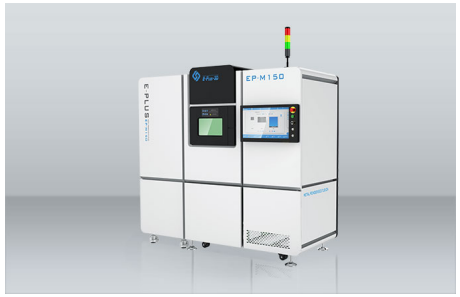

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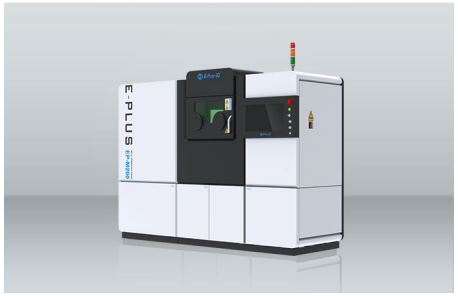

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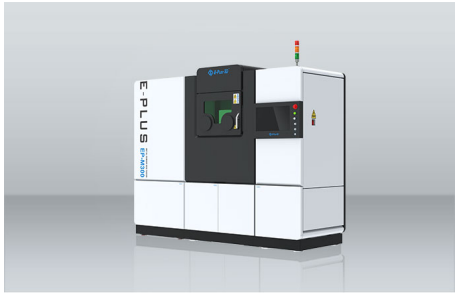

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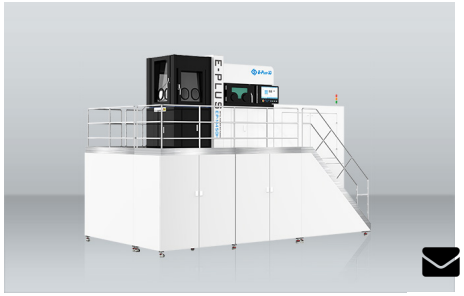

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