

# EP-M400

Large Size & High Speed & Cost-effective  
Metal Additive Manufacturing System



# EP-M400

Eplus3D Introduces EP-M400 to the successful line of MPBF™ 3D printers. EP-M400 is a marvelous metal printer that makes the production of reliable and high quality large metallic parts viable on industrial scale without requiring any tools. It is optional for single laser, dual laser, triple laser and quad laser. Due to its high efficiency, quality production and dependability along with the ease of operation and integration of additive manufacturing into overall manufacturing ecosystem, EP-M400 makes sure its owners remain one step ahead in their field of engagement.



## « 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.
- Overlapping deviation  $\leq \pm 0.1$  mm. The overall mechanical properties of the printed part remain the same when compared to printing results with other laser machines.



## « HIGH EFFICIENCY

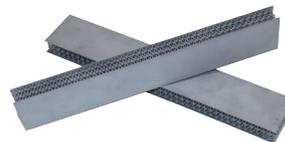
- Build volume (X x Y x Z): 400 x 400 x 450 mm (height incl. build plate), build chamber volume > 70 L.
- Printing with increased layer thickness can be realized, increasing the production capacity.
- With in-house developed processing software (EPHatch), optimized scanning strategies can be achieved with reduced print duration.



Shoe Mold  
Maraging Steel  
255 x 155 x 280 mm



Impeller  
IN718  
 $\phi$  380 x 156 mm



Satellite Lightweight Structural Components  
Aluminum Alloy  
320 x 58 x 20 mm



Satellite Component  
Aluminum Alloy  
323 x 185 x 146 mm



### « 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  $\leq 100$  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.



### « COST-EFFECTIVE & EASY OPERATION

- Three-stage filtration, which can use blow back function to remove the fume, equipped with permanent filter element.
- Highly user friendly software interface and one-click printing technology makes printing super simplified.
- Comparability with different types of recoater lips such as ceramic, PU, alloy steel, etc.
- 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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## PARAMETER

Machine Model	EP-M400
Build Volume (X x Y x Z) (height incl. build plate)	400 x 400 x 450 mm (15.75 x 15.75 x 17.72 in)
Optical System	Fiber Laser 1 / 2 / 3 / 4 x 500 W (700 W and 1000 W are optional)
Spot Size	70 - 120 $\mu$ m
Max Scan Speed	8 m/s
Layer Thickness	20 - 120 $\mu$ m
Theoretical Printspeed	Up to 190 cm <sup>3</sup> /h
Material	Titanium Alloy, Aluminum Alloy, Nickel Alloy, Maraging Steel, Stainless Steel, Cobalt Chrome, Copper Alloy, etc.
Power Supply	380 V, 50 / 60 Hz, 12.5 ~ 18 kW
Gas Supply	Ar / N <sub>2</sub>
Oxygen Content	$\leq$ 100 ppm
Dimension (W x D x H)	3925 x 1690 x 2780 mm
Weight	5900 kg
Software	EPControl, EP Hatch
Input Data Format	STL or other Convertible File

Notice: Eplus3D reserves the right to explain any alteration of the specifications and pictures.