

# EP-P420

SELECTIVE LASER SINTERING  
3D PRINTER



# EP-P420

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EP-P420 adopts polymer powder bed fusion (PPBF) technology, with max up to 420 x 420 x 460 mm building cylinder, EP-P420 ensures you the capability to print medium & large size parts for customized products and small batch production. Thanks to its innovative software and hardware, the EP-P420 is well designed user-friendly and cost-effective.

## « High Performance

- The elimination of left and right excess material box design, resulting in higher powder utilization.
- Optimized temperature real-time management system, temperature filed fluctuation  $\leq \pm 1.0^{\circ}\text{C}$ .
- Advanced optical scanning path strategy, ensures superior details and surface quality of final parts.
- Incorporating a chip-type heating solution for operation temperatures up to  $230^{\circ}\text{C}$ , enhancing the machine's ability to print a variety of polymers with faster, uniform heating.
- Discrete variation of mechanical properties for full-scale printing parts is less than 5%.
- The temperature field utilizes dual-probe detection with self-calibration function, for more stable and secure printing.

## « High Efficiency

- With 120w laser power, the machine has higher printing speed.
- Diaphragm pump for loading powders, reducing main machine vibrations, enhancing stability.
- Design with removable molding cylinder, enabling dual-cylinder alternating printing for higher efficiency.
- Detachable optical protective windows, makes daily maintenance easy.
- Open source printing parameters, enables the development of new material.
- Distinctive scanning strategy, saves the scanning time.
- Real-time powder feeding system, saves the printing material.
- Large volume powder dispenser, one time feeding to meet the whole cylinder printing.
- Auxiliary machine supports one-to-two functionality for increased cost-effectiveness.

## « User-Friendly & Intelligent

- One-click scanning path generation.
- Capability to print with one-click.
- Printing report automatic generation, the printing process can be tracked.
- Malfunction automatically process, avoids damage to the equipment.

## « Auxiliary Equipment Optional

Powder clean platform, sand blaster, powder mixer, fork truck, vacuum cleaner.

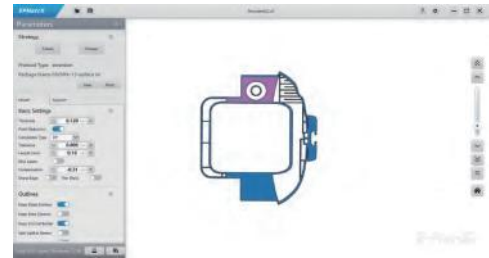
## « Other Optional Accessories

Detachable forming cylinder, detachable optical protective windows.

# Eplus3D Software Solutions

## EPHatch Printing Process Planning Software

EPHatch is a process planning software independently developed by Eplus3D for its additive manufacturing systems. It can optimize the printing path based on the data that has been sliced and output, and set the scanning path separately for contour, interior, upper and lower surface of the part. In addition, EPHatch comes standard with a variety of advanced scanning strategies like long straight lines, short straight lines and checkerboards for the user, enables an optimal process setting for specific materials.



## Eplus3D Control Software

Eplus3D control software is a powerful control system independently developed by Eplus3D for its additive manufacturing systems, with open and friendly interface, it enables our users to manage their digital files easily from build preparation and parts positioning all the way to in build monitoring and reports generation. It is a powerful control and operating system for mature materials printing as well as new materials development.



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## PARAMETER

Build Volume	420 x 420 x 460 mm (L x W x H)
Effective Build Size	380 x 380 x 425 mm
Dimension	2378 x 1394 x 2505 mm (X x Y x Z)
Gas Supply	N <sub>2</sub>
Machine Weight	3000 kg
Scanning Speed	Max. 15 m/s
Max. Chamber Temperature	230 °C
Power Supply	AC 380 V, 50 / 60 Hz, 15 kW
Layer Thickness	0.06 - 0.2 mm
Laser Power	CO <sub>2</sub> Laser, 55 /120 W
Building Speed	2500 cm <sup>3</sup> /h
Thermal Field Control	Independent four-zone temperature control system
Temperature Regulation	Continuous real-time building surface temperature monitoring
Control Software	EPControl, EP Hatch
Output Data Format	STL .OBJ .STEP or other convertible file
Material	PA11, PA12, PA6 and it's composites

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