Kings®
3D Printing

M450

Kings Industrial SLM 3D Printers

2-Laser 2-galvanometer Large Size Metal 3D Printing Equipment on the Same Radial Surface

M450

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◆ Overview

Kings M450 is a high-efficiency solution launched by KINGS 3D for large-scale metal 3D printing applications. Multi-laser and multi-galvanometer systems are combined on the same platform, improving printing efficiency by more than 80%. For the first time, an entirely closed-loop powder handling system is adopted to reduce the harm of dust to human health.

◆ Advantage

Large-size multi-laser high-efficiency forming on the same platform:

The multi-laser and multi-galvanometer work together on the same platform synchronously, which can improve the printing efficiency by more than 80% and enable efficient printing of large-sized parts.

Intelligent operation design:

Unattended automatic printing operation, automatic/manual control with seamless switching, self-diagnosis function, safety protection, and automatic fault alarms.

Dual circulation wind site protection system:

Dual-circulation wind system for site protection, extending the lifespan of optical components.

All closed looped powder handling system:

Closed powder internal processing system, isolates the printing system from the external environment, and reduces the harm of powder to the human body.

◆ Ideal Applications

- Widely used in mold, automobile, aerospace, nuclear power military, orthopedic, etc.

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◆ Technical Data

Build Size	425 × 425 × 450mm
External Dimensions	3200 × 1700 × 3400mm / 4070 × 2500 × 3400mm （footrest and powder container）
Forming Materials	Stainless Steel, Cobalt-Chromium Alloy, Titanium Alloy, Tool Steel, Aluminum Alloy, High-Temperature Alloy
Powder Supply Method	Top Powder Supply & Two-Way Powder Feeding
Printing Accuracy	±0.1(L≦100 mm)；±0.1%*L(L>100 mm)
Layer Thickness	0.02-0.2mm
Protection System	Efficient Protective Gas Circulation System (Nitrogen, Argon)
Supporting Consumables	Stainless Steel Powder 316L, No Less Than 100kg, With Various Material Process Parameter Packages
Laser Type	IPG 500W×2 (1064nm)
Scanning Speed	7m/s
Laser Speed	Scanning:1~4m/s (Recommended); Jumping: 6~7m/s(Recommended); Up to 11m/s
Data Processing Software	Voxeldance Additive (STL file)
Equipment Control Software	Independently Developed by Kings
Operating System	Windows 7 and Above
Data Format	STL/SLC/JOB
Power Supply	380V 50/60 Hz
Rated Power Consumption	20kW, Three-phase Electricity
Preheat Temperature	RT+20℃~80℃
Industrial Control Computer Configuration	10th Gen i7, 16GB RAM
Forming Efficiency	15~35cm³/h
Relative Humidity	Below 40%, Frost-free
Ambient Temperature	15-30 ℃
Equipment Weight	4000kg

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