



BULLTECH

Additive Manufacturing Solution
SLM Series



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Laser makes manufacturing easier



	M100	M160
LASER SYSTEM	Type: fiber laser Wave length: 1064 nm Power: 200 W (70W optional)	Type: fiber laser Wave length: 1064nm Power: 200W
RECOATING SYSTEM	Process: scraper coating Layer Thickness: 0.02-0.1mm	Process: scraper coating Layer Thickness: 0.02 -0.1mm
OPTICAL & SCANNING	Beam (diameter@1/e2): ≤0.04 mm Scanning Galvanometer: ScanLab Scanning Speed: up to 10.0m/s Building Speed: 2-20 cm ³ /h	Beam (diameter@1/e ²): 0.05~0.15mm Scanning Galvanometer: ScanLab Scanning Speed: up to 10.0m/s Building Speed: 2-15 cm ³ /h
ELEVATOR	Drive Mode: servo motor precision reduction drive Printing Board Bearing Weight: ≥ 200kg Repositioning accuracy: ±0.005 mm	Drive mode : servo motor precision reduction drive Printing Board Bearing Weight : ≥200kg Repositioning accuracy: ±0.01mm
BUILD VAT	Volume: ≥ 2 L Size: 100mm(X)*100mm(Y)*100mm(Z) Heat: Precision resistance wire heating Protective Gas: N2 / Argon Materials: Stainless Steel / Die Steel / Titanium Alloy / Aluminum Alloy / Co-Cr Alloy / Nickel Alloy / Copper Alloy / Precious Metal etc.	Volume: Approx. 25L Size: 160mm(X)*160mm(Y) * 100mm(Z) Heat: Precision resistance wire heating Protective Gas: N2 / Argon Materials: Stainless Steel / Die Steel / Titanium Alloy / Aluminum Alloy / Co-Cr Alloy / Nickel Alloy / Copper Alloy / Precious Metal etc.
SOFTWARE	Control Software: Bulltech Date Preparation Software: Materialise Magics Data Interface: STL or other convertible format	Control Software: Bulltech Date Preparation Software: 3dLayer/ Materialise Magics Data Interface: STL or other convertible format
WORKING CONDITION	Power: 220V 50/60Hz, single phase, 32 Amps Ambient Temperature: 10-26°C Relative Humidity: ≤ 65% Dimension: 1200mm(L)*1800mm(W)*1700mm(H) Machine Color: black / white	Power: 220VAC 50/60Hz, single phase, 25Amps Ambient Temperature: 15-36°C Relative Humidity: ≤ 40% Dimension: 1100mm(L)*1280mm(W)*1850mm(H) Machine Color: black / white



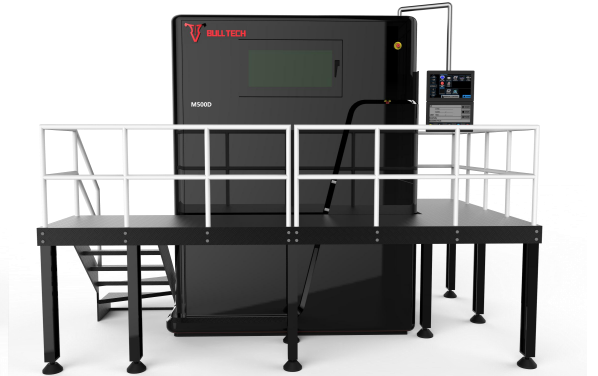
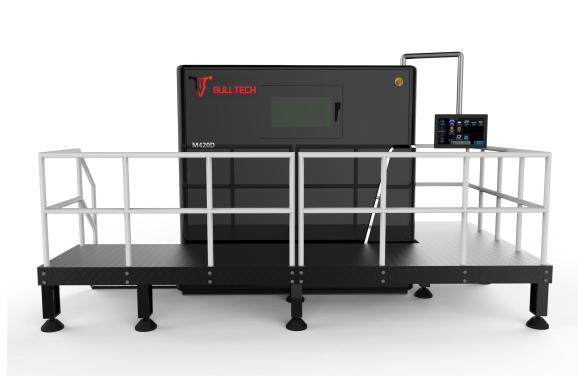
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	M280	M300-Multiple
LASER SYSTEM	Type: fiber laser Wave length: 1064nm Power: 500W	Type: fiber laser Wave length: 1064nm Power: 500W
RECOATING SYSTEM	Process: scraper coating Layer Thickness: 0.02-0.1mm	Process: scraper coating Layer Thickness: 0.02~0.1mm
OPTICAL & SCANNING	Beam (diameter@1/e ²): 0.05-0.15mm Scanning Galvanometer: ScanLab Scanning Speed: up to 10.0m/s Building Speed: 4-20cm ² /h	Beam (diameter@1/e ²): ≤0.07mm Scanning Galvanometer: ScanLab Scanning Speed: up to 10.0m/s Building Speed: 2-20cm ² /h
ELEVATOR	Drive Mode: servo motor precision reduction drive Printing Board Bearing Weight: ≥ 200 kg Repositioning accuracy: ± 0.01mm	Drive Mode: servo motor precision reduction drive Printing Board Bearing Weight: ≥200kg Repositioning accuracy: ± 0.005mm
BUILD VAT	Volume: Approx. 25 L Size: 280mm(X)*280mm(Y)*350mm(Z) Heat: Precision resistance wire heating Protective Gas: N ₂ / Argon Materials: Stainless Steel / Die Steel / Titanium Alloy / Aluminum Alloy / Co-Cr Alloy / Nickel Alloy / Copper Alloy / Precious Metal etc.	Volume: ≥ 10 L Size: 250mm(X)*250mm(Y)*300mm(Z) Materials: 2-4 different materials printing at same time Protective Gas: N ₂ / Argon Materials: Stainless Steel / Die Steel / Titanium Alloy / Aluminum Alloy / Co-Cr Alloy / Nickel Alloy / Copper Alloy / Precious Metal etc.
SOFTWARE	Control Software: Bulltech Date Preparation Software: 3dLayer/ Materialise Magics Data Interface: STL or other convertible format	Control Software: Bulltech Date Preparation Software: Materialise Magics Data Interface: STL or other convertible format
WORKING CONDITION	Power: 220VAC 50/60Hz, single phase, 25Amps Ambient Temperature: 20-26°C Relative Humidity: ≤ 65% Dimension: 1750mm(L)*1360mm(W)*2160mm(H)	Power: 220VAC 50/60Hz, single phase, 45Amps Ambient Temperature: 10-26°C Relative Humidity: ≤ 65% Dimension: 1600m(L)*1100mm(W)*2600mm(H)



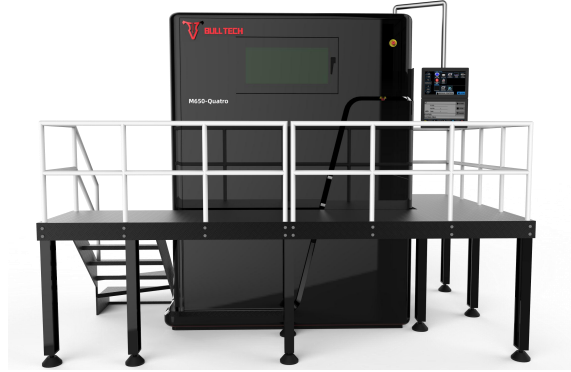
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	M420D	M500D
LASER SYSTEM	Type: fiber laser Wave length: 1064nm Power: 500W*2	Type: Fiber laser Wave length: 1064nm Power: 500W*2
RECOATING SYSTEM	Process: scraper coating Layer Thickness: 0.02-0.15mm	Process: scraper coating Layer Thickness: 0.02-0.15mm
OPTICAL & SCANNING	Beam (diameter@1/e ²): 0.06-0.2mm Scanning Galvanometer: ScanLab*2 Scanning Speed: up to 20.0m/s Reference Building Speed: 15-50cm ³ /h	Beam (diameter@1/e ²): 0.06-0.2mm Scanning Galvanometer: ScanLab*2 Scanning Speed: up to 28.0m/s Reference Building Speed: 15-60cm ³ /h
ELEVATOR	Drive Mode: servo motor precision reduction drive Printing Board Bearing Weight: ≥200kg Repositioning accuracy: ±0.01mm	Drive Mode: servo motor precision reduction drive Printing Board Bearing Weight: ≥200kg Repositioning accuracy: ±0.01mm
BUILD VAT	Volume: Approx. 80L Size: 420mm(X)*420mm(Y)*450mm(Z) Heat: Precision resistance wire heating Protective Gas: N ₂ / Argon Materials: Stainless Steel / Die Steel / Titanium Alloy / Aluminum Alloy / Co-Cr Alloy / Nickel Alloy / Copper Alloy / Precious Metal etc.	Volume: Approx. 160L Size: 500mm(X)*400mm(Y)*800mm(Z) Heat: Precision resistance wire heating Protective Gas: N ₂ / Argon Materials: Stainless Steel / Die Steel / Titanium Alloy / Aluminum Alloy / Co-Cr Alloy / Nickel Alloy / Copper Alloy / Precious Metal etc.
SOFTWARE	Control Software: Bulltech Date Preparation Software: 3dLayer/ Materialise Magics Data Interface: STL or other convertible format	Control Software: Bulltech Date Preparation Software: 3dLayer/ Materialise Magics Data Interface: STL or other convertible format
WORKING CONDITION	Power: 220VAC 50/60Hz, single phase, 30Amps Ambient Temperature: 20-26°C Relative Humidity: ≤ 40% Dimension: 2640mm(L)*1360mm(W)*2450mm(H)	Power: 380VAC 50/60Hz, three-phase, 30Amps Ambient Temperature: 20-26°C Relative Humidity: ≤ 40% Dimension: 3050mm(L)*1900mm(W)*3800mm(H)



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M650-Quatro

LASER SYSTEM

Type: Fiber laser
Wave length: 1064nm
Power: 700W*4 (500W/1000W optional)

RECOATING SYSTEM

Process:
Double-cylinder Bi-directional powder feeding and scraper coating
Layer Thickness: 0.02-0.1mm

OPTICAL & SCANNING

Beam (diameter@1/e2): $\leq 0.1\text{mm}$
Scanning Galvanometer: ScanLab*4
Scanning Speed: up to 34m/s
Building Speed: 2-120cm³/h

ELEVATOR

Drive Mode: Servo motor precision reduction drive
Printing Board Bearing Weight: $\geq 4000\text{kg}$
Repositioning accuracy: $\pm 0.01\text{mm}$

BUILD VAT

Volume: $\geq 800\text{L}$
Size: 625mm(X)*625mm(Y)*1100mm(Z)
Heat: Precision resistance wire heating
Protective Gas: N₂ / Argon
Materials:
Stainless Steel /
Die Steel /
Titanium Alloy /
Aluminum Alloy /
Co-Cr Alloy /
Nickel Alloy /
Copper Alloy /
Precious Metal etc.

SOFTWARE

Control Software: Bulltech
Date Preparation Software: Materialise Magics
Data Interface: STL or other convertible format

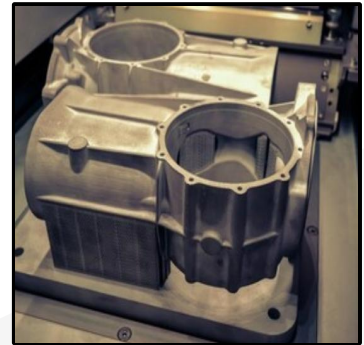
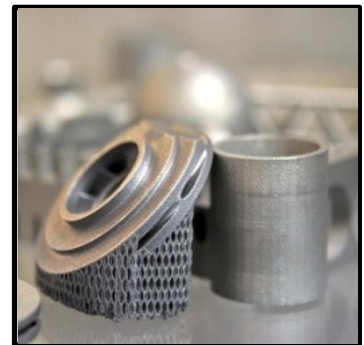
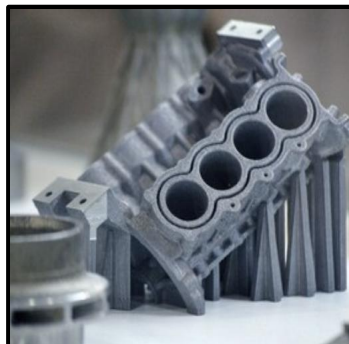
WORKING CONDITION

Power: 380VAC 50/60Hz 25KW
Ambient Temperature: 15-36°C
Relative Humidity: $\leq 40\%$
Dimension: 3105mm(L)*2750mm(W)*4200mm(H)

■ Key Features

- » Parts with high quality surface before polishing
- » Parts in high accuracy, for precision samples
- » Directly produce functional metal parts, simplify the manufacture process
- » Parts have metallurgy and mechanical properties, density over than 99%.
- » Especially for single part or small amount of functional parts
- » Bus control system makes the machine faster
- » Remote APP monitoring and Smart pushing information
- » International high standard components, more stable and reliable
- » Self developed and patented control and slicing software, easy to use and cost saving

■ Samples





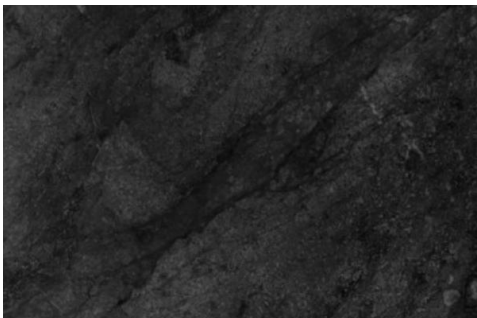
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Major Components



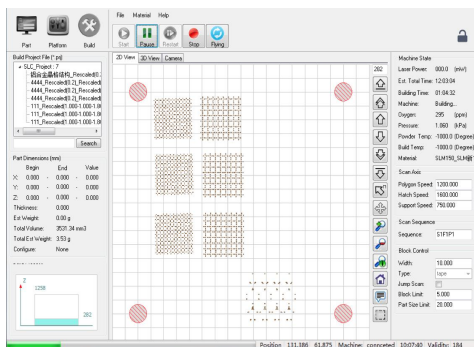
▲ Optical System

Core optical system has been thoroughly developed and designed by German Scanlab. Series of the optical lens group directly determining focal quality is able to amplify the power of laser utilized, to optimize beam mode and quality and thus to further extend laser performance and stability.



▲ Marble Countertop

Marble countertops have the characteristics of low linear expansion coefficient, high hardness, wear resistance, and antimagnetic properties. Ensure the stability of the accuracy of the bed at high speeds, ensure excellent workpiece quality.



▲ Advanced System

Self-developed high-performance control system can support high speed working performance with high precision. Characterized in simple and easy use, it offers flexibility, stability and reliability



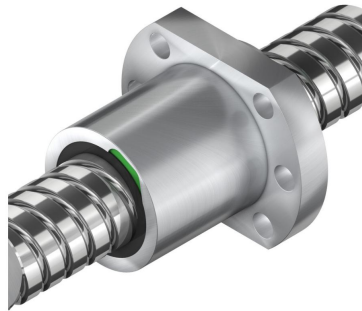
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Major Components



▲ Laser source

Latest research and development of fiber laser by US IPG offers high photoelectric converting rate, improved beam quality, wide frequency modulation rate, intensified energy density, extended lifespan, stable performance, carefree maintenance, safety and reliability.



▲ Rail & Guide

HIWIN rail and guide originally from Taiwan, innovative technology with high precision, stable performance, longer service life, more suitable for long-term high-speed applications.

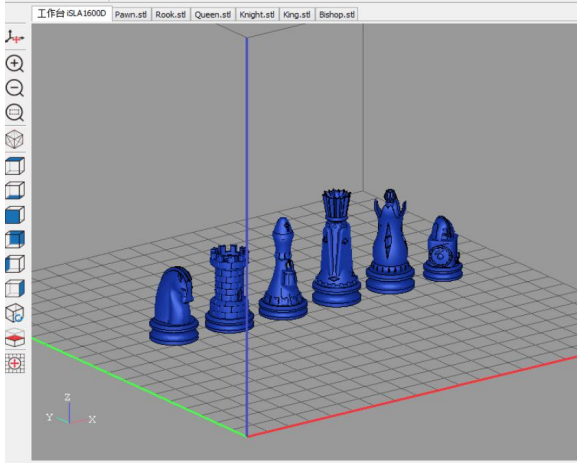


▲ Servo motor

Servo motor from Japan, high speed and precision, high feedback and inertia, catering to requirements of high quality and productivity.



3D Model Supporting & Slicing Software



» System Advantages

- Support multiple formats of 3D drawings such as STL / STP(STEP) / IGS(IGES), support to save multiple files as the exclusive project file -- "*.3dl" file
- Have excellent 3D visualization effect and flexible and friendly operation, can finish file panning, rotating, zooming, and other operations only via mouse or keyboard.
- Automatically count and display the part's basic information such as the volume, the surface area and the size. And provide a variety of distance measuring tools.
- Auto analyzing of error part and displaying, provides "one key auto fixing" and various of patented fixing modes.
- "Auto placement" and "appointed top/bottom", makes parts placement "one key operating"
- Auto support structure creating and manual support structure editing, handling parts' support structures reliably, conveniently, flexibly and fast.
- Transfer the file format (STEP, IGES, BREP) into STL.
- The CLI / SLC file will be obtained by slicing the part-support system.

The software will be updated continuously. Your feedback and suggestions for the software would be very much appreciated. Please trust our website if your system or security software misjudged our software as an unsafe element.

RECOMMENDED CONFIGURATIONS	<p>Operating System: Windows 7 / 8 / 8.1 (x86 / x64)</p> <p>CPU: Intel i5 (or above)</p> <p>RAM: 4GB</p> <p>GPU: 2GB(Recommend External Graphics Card)</p> <p>Hard disk: 500GB</p> <p>Network: IEEE802.3</p>
INTERFACE OF INPUT	<p>Default file formats: STLfile(*.stl)</p> <p>Supported file formats: STPfile(*.stp/* .step)IGSfile(*.igs/* .iges)</p> <p>Project file formats: 3dmfile(*.3dl)</p>
INTERFACE OF OUTPUT	<p>Common file formats: SLCfile(*.slc)CLIfile(*.cli)</p> <p>Proper file formats: 3dmfile(*.3dl)</p>
MODEL REPAIR	<p>Facets normal repair</p> <p>Facets crack repair</p> <p>Facets hole repair</p> <p>Auto. multi repair</p>
MODEL ARRANGEMENT	<p>Auto. Array</p> <p>Translation</p> <p>Rotate</p> <p>Pointed surface set</p>
MULTI PLATFORM SYSTEM	<p>Multi platform selection</p> <p>Multi platform configuration</p>
AUTOMATIC SUPPORT	<p>Auto. support</p> <p>Support optimization</p> <p>Support edit</p> <p>3D Printer Adaptation: FDM / SLA / SLS / SLM / FMS</p>



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