

Avimetal-MT650H

Laser Powder Bed Fusion Equipment

Tall-Part Integrated Printing

Full-Frame Precision & Stability

High-Z Build in a Compact Footprint



1.5m Compact Ultra-High Shaft Forming

Z-axis net forming up to 1500mm Collaborative innovation within limited space



Innovative Powder Feeding Structure

Avoids malfunctions
Convenient powder replacement and cleaning

ISO CE Ex FDA SIL



6-Laser System

Ultra-high printing efficiency
Meets high-efficiency production needs


Independent Airtight Powder Cleaning Bin

Independent air-tight system - safe & reliable
High-efficiency circulating feeder - efficient & convenient


Efficient Circulating Filtration System

Flexible configuration, optional for long-term or three-level filtering



Real-time Monitoring

Real-time recording, output, self-diagnosis



Open-source Parameters

Laser power, scanning speed, etc. are open and adjustable



Dual-Station Compact Layout

Forming station + powder cleaning & part removal station
Highly integrated, meets intensive layout needs


Equipment Parameters

Build Material	Titanium Alloy, Superalloy, Aluminum Alloy, Cobalt-Chromium Alloy, Stainless Steel, Die Steel, Copper Alloy, High-Entropy Alloy, Refractory Metal, etc.		
Build Size ^①	650×650×1500mm (X×Y×Z)	Recoating Mechanism	Uni/Bidirectional Variable-Speed Recoating
Laser System	500W×6	Gas Support	Ar/N ₂
Scanning System	High-Precision Scanning Galanometer	Working Oxygen Content	≤100ppm
Focusing System	F-theta Field Lens	Build Efficiency ^②	150cm ³ /h
Beam Quality	M ² ≤1.1	Host Dimensions	4900×3950×5100mm (L×W×H)
Beam Diameter	70~120μm	Installation Dimensions	7900×6950×6500mm (L×W×H)
Maximum Scanning Speed	7m/s	Power Supply	AC380V
Layer Thickness	20~120μm	Power Consumption	≤30kW
Platform Preheating Temperature	RT+20℃~200℃	Equipment Weight	Approx.16000kg

^① Excluding the thickness of the build platform.

^② The building efficiency can vary due to differences in equipment configuration, process parameters, and the operating status of the laser.

* The above data are obtained under AVIMETAL operating conditions. The final equipment parameters are subject to the actually sold products.



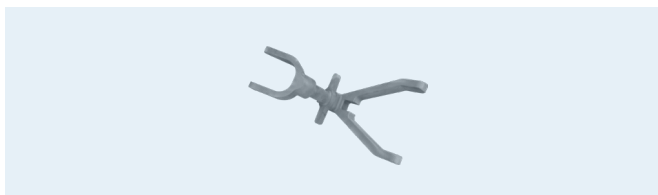
Application Areas

 Aerospace	 Automobile Manufacturing	 Industrial Mold	 Petrochemical Industry	 Nuclear Power
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Application Cases



Turbine Wheel (MT-GH3536)



Landing Gear (MT-Ti6Al4V)

Automatic Powder Supply Solution


MPC-Q100
Powder Cleaning Machine

MPS-JS100
Powder Collection Tank

MPS-BF100
Pump Powder Feeder

MSF-Z100
Powder Screening Machine

MPS-XH10
Integrated Circulating
Powder Path System

Parameter Smart Module

Standard Configuration: AVIMETAL-Pretreatment data preprocessing software, AVIMETAL-Control system (intelligent process diagnosis, real-time data tracking, real-time status monitoring), permanent dust removal.

Optional Configuration: 3D part reconstruction, powder spreading monitoring, automatic splicing, path planning, AVIMETAL-MES management system.

Consumables

Rubber scraper, metal build plate, passivant

Pre-Sales & After-Sales : Multi-location service support, 24x7 rapid response

 Customized Matching Specialized technical team supports deep customization	 Assembly & Debugging Standardized installation, rapid optical system calibration	 Personnel Training Comprehensive tiered training: operation, process handling, etc.
 Product Upgrades Equipment iteration services including supporting software	 Spare Parts Service Provides maintenance parts and consumables	 Operational Support On-site equipment inspection and maintenance by engineers

Materials

More than 200 alloy grade powder materials, including superalloys, titanium alloys, aluminum alloys, cobalt chromium alloys, stainless steels, die steels, high entropy alloys, refractory metals, and copper alloys, etc.

Process

Design Modeling → Structured Process → Forming Process → Process Control → Heat Treatment → Surface Treatment → Detection Analysis

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