

Avimetal-MT170

Laser Powder Bed Fusion Equipment

Open-Source Dental Printer

High Precision / Stable / Cost-Effective

Ideal for Dental Labs & Research



High Cost Performance

High quality laser
High cost-effectiveness
of the entire machine



Modular and Compact Design

Easy to assemble
and maintain



Multi-scraper Adaptable

Rubber, hairbrush,
high-speed steel,
ceramic, etc.



Powder Feeding Structure

Accurate powder
delivery and convenient
replacement



Multi-powder Material Compatibility

Preloaded extensive
print parameters
Customizable &
adjustable



Real-time Monitoring

Real-time recording,
output, self-diagnosis



Open-source Parameters

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



Supports Customization

Provide services based
on customer needs

ISO CE Ex FDA SIL



Equipment Parameters

Build Material	Cobalt-Chromium Alloy, Titanium & Titanium Alloy, Refractory Metal, Intermetallic Compound, etc.	Recoating Mechanism	Unidirectional Variable-Speed Recoating
Build Size ^①	φ 170mm×120mm (D×H)	Gas Support	Ar/N ₂
Laser System	500W×1 /×2	Working Oxygen Content	≤100ppm
Scanning System	High-Precision Scanning Galanometer	Build Efficiency ^②	25cm ³ /h; 50cm ³ /h
Focusing System	F-theta Field Lens	Host Dimensions	1400×800×1600mm (L×W×H)
Beam Quality	M ² ≤1.1	Installation Dimensions	3200×2400×2180mm (L×W×H)
Beam Diameter	40~80μm	Power Supply	AC220V
Maximum Scanning Speed	7m/s	Power Consumption	7kW; 9kW
Layer Thickness	20~100μm	Equipment Weight	Approx.700kg

^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

	Dental Crowns & Frameworks		Orthopaedic Implants		Research & Education
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Application Cases



Dental Crowns(MT-CoCrMoW)

Dental Frameworks (MT-Ti6Al4V Gr23)

Acetabular Cups (MT-Ti6Al4V Gr23)

Parameter Smart Module

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

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

Consumables

Rubber scraper, metal build plate, filter

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

