THUNDER LASER

Thunder SLM-175

Next Generation

Metal 3D Printing Machine

COMPACT | EFFICIENT | PRECISE

Discover Our New Thunder SLM-175

Thunder Laser' s next-generation Thunder SLM-175 Metal 3D Printer redefines industrial-grade metal additive manufacturing with its high quality, high efficiency, and ultra-compact design. Engineered for maximum versatility, the Thunder SLM-175 features an extremely compact and modular footprint, requiring minimal space and enabling flexible deployment across various scenarios. The system supports LAN connectivity for real-time monitoring and can be integrated with cloud-based management platforms.

Powered by an advanced intelligent path planning algorithm, the Thunder SLM-175 boosts printing efficiency by up to 15%, while maintaining a high forming accuracy of ±0.05mm—ensuring both speed and precision. Once print data is uploaded, the machine supports one-click printing and features power-loss recovery for uninterrupted operation. The reusable filter system, combined with up to 85% powder recovery, significantly reduces operational costs.

Designed to meet the demands of aerospace, medical, and other complex, high-precision applications, the Thunder SLM-175 is a reliable and efficient solution for research, education, and small-batch production in the metal additive manufacturing space.

01 Ultra-Compact Design for Versatile Deployment

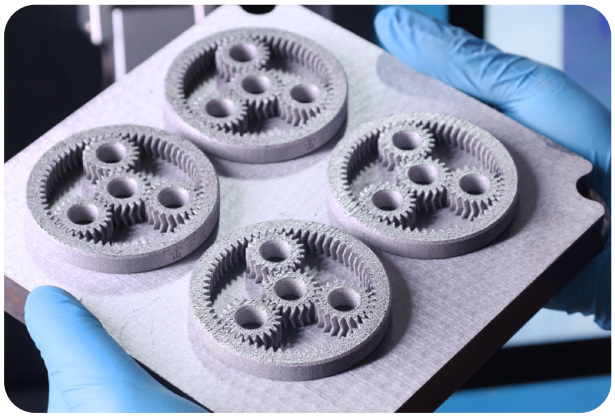
With a footprint of just 1.08 m^2 and weighing 480 kg, the Thunder SLM-175 runs on a standard 220V power supply and fits easily into labs, workshops, and classrooms. Its modular architecture allows seamless integration while delivering industrial-grade performance.

02 Precision for Complex Demands

Equipped with a laser energy field optimization algorithm, the Thunder SLM-175 intelligently adjusts processing parameters to enhance the success rate and quality of complex part fabrication. Achieving a forming accuracy of up to ±0.05mm, it is ideal for producing high-precision components such as aerospace turbine blades and customized medical implants.

03 Efficiency for Optimized Workflows

Powered by an optimized path planning algorithm, the Thunder SLM-175 intelligently matches distinct process strategies to the specific requirements of each part, improving printing efficiency by up to 15%. With a gas-filling time of only 10–15 minutes (assuming adequate gas pressure supply), the system significantly shortens production cycles and enhances overall throughput.



04 Cost Savings for Long-Term Value

A reusable filter system, modular architecture for simplified maintenance, and up to 85% powder utilization work together to minimize material waste and ongoing operational costs—maximizing user return on investment over the machine's lifecycle.

05 Proprietary Smart System for Optimal Speed & Quality

Our in-house developed laser scanning algorithm stabilizes melt pool dynamics by resisting changes in atmospheric conditions. Coupled with intelligent path optimization, it reduces printing time while maintaining exceptional quality—delivering both speed and reliability.

06 Support for Every Stage of the Journey

From tailored process packages to end-to-end training, Thunder Laser provides full lifecycle support. Responsive technical service and application guidance—covering education, research, and industrial scenarios—help users reduce the barriers from entry to mass production, accelerating the adoption of metal additive manufacturing.

Metal 3D Printing Revolution

Metal 3D Printing:Transforming Traditional Manufacturing

Metal 3D printing, particularly Selective Laser Melting (SLM), is revolutionizing the manufacturing landscape by offering unparalleled design freedom, efficiency, and customization. Unlike traditional methods such as casting or CNC machining, metal 3D printing builds components layer by layer, enabling the creation of complex geometries that were previously unattainable.

01

Design Flexibility

Produce intricate structures, including internal channels and lattice frameworks, without the constraints of traditional tooling.

02

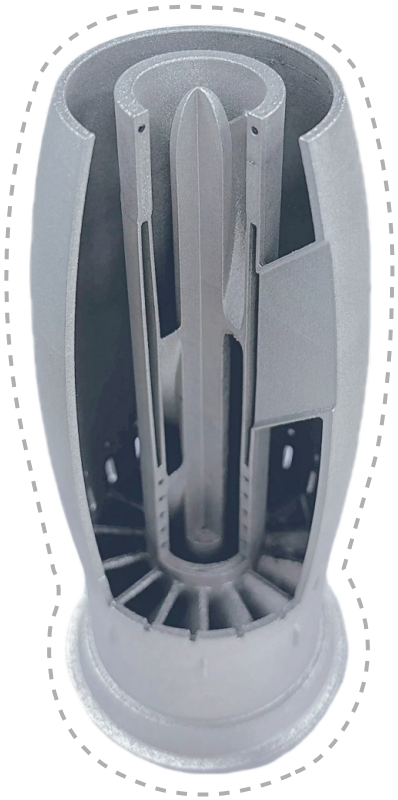
Material Efficiency

Minimize waste by using only the necessary material, leading to cost savings and sustainable production.

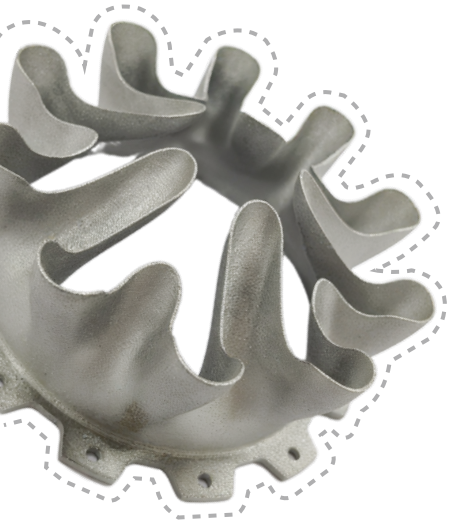
03

Rapid Prototyping

Accelerate product development cycles by swiftly transitioning from design to functional prototypes.



Engine Component



Swirler

04

Customization

Easily tailor products to specific requirements without the need for extensive retooling.

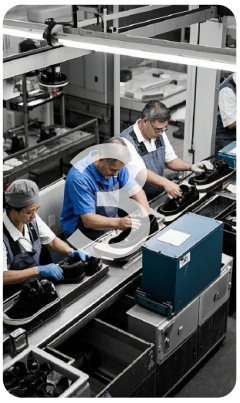
05

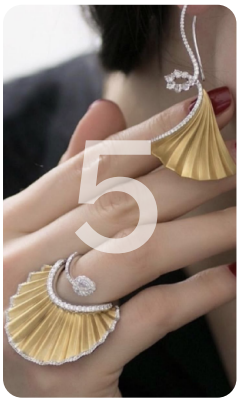
Reduced Lead Times

Streamline manufacturing processes, resulting in faster delivery and reduced inventory costs.

Compatible Powders	Stainless Steel / Cobalt-Chromium Alloy / High-Temperature Alloy / Superalloy / Tool Steel

Application Fields






IMPELLER

1 Aerospace

Metal 3D printing enables the production of lightweight, complex components such as turbine blades and engine parts. These parts contribute to improved fuel efficiency, increased payload capacity, and enhanced overall performance.

2 Medical

In the medical field, metal 3D printing is utilized to create customized dental implants, orthodontic devices, and surgical guides. This technology allows for patient-specific solutions, improving comfort and treatment outcomes.


ARTIFICIAL HIP JOINT


SHOE MOLD

3 Tooling & Molds

The technology excels in producing molds with intricate cooling channels, leading to better thermal management and shorter production cycles. This results in higher precision and efficiency in manufacturing processes.

4 Art & Craft

Artists and designers leverage metal 3D printing to craft intricate, detailed pieces that were previously challenging to produce. The ability to quickly turn creative concepts into tangible products opens new avenues for artistic expression and market opportunities.


PLOWING OX


STATEMENT RING

5 Jewelry & Luxury Goods

The jewelry industry benefits from metal 3D printing by producing intricate designs with high precision. This allows for greater creativity, customization, and faster production times, meeting the demands of discerning customers.

Fast Printing in Action

Item	Model	Metarial	Time
	Impeller	18Ni300	2.24h
	Engine Model	18Ni300	1.34h
	Aircraft Engine Model	18Ni300	50.14h
	Engine Components	316L-Stainless steel	9h
	Crafts	316L-Stainless steel	1h
	Cyclone	18Ni300	11.17h
	Hot Mouth Cover	CX	8.15h
	Pipe	316L-Stainless steel	14h
	Earphone Sleeve	316L-Stainless steel	18h
	Shoe Model	18Ni300	3.32h

Item	Model	Metarial	Time
	Oral	316L-Stainless steel	0.63h
	Hip	316L-Stainless steel	17h
	Braces	316L-Stainless steel	0.56h
	Dental Mold	316L-Stainless steel	8.5h
	Acetabular Cup	316L-Stainless steel	4.6h
	Engine	316L-Stainless steel	28h
	Crafts	316L-Stainless steel	14h
	Black Myth Wukong	316L-Stainless steel	3.66h
	Pioneer	316L-Stainless steel	4.5h
	Little Dragon	316L-Stainless steel	0.78h

Next Generation
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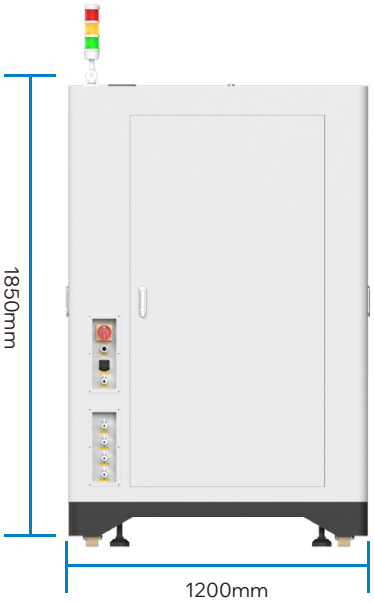
FRONT VIEW



BACK VIEW

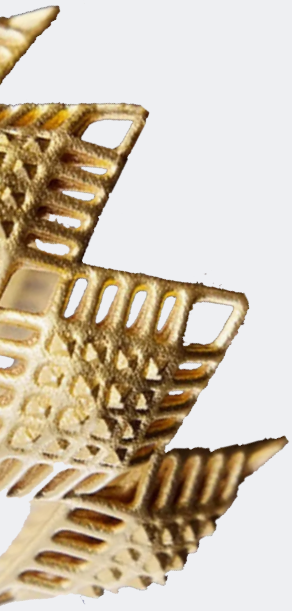
LEFT SIDE

TECHNICAL SPECIFICATIONS

Build Volume	L175mm*W175mm*H200mm(6.9"x6.9"x7.9")
Laser Power	Fiber 500W
Project Accuracy	±0.05mm
Maximum Scan Speed	8000mm/s
Beam Diameter	40~100μm
Build Rate	10-15cm³/H
Supported Materials	Stainless steel, mold steel, cobalt-chromium alloy, high-temperature alloy, etc.
Layer Thickness	0.03mm - 0.1mm
Power Supply	220 V ±10%, 50/60 Hz, 3.5 kW
Shielding Gas	Ar / N_2
Machine Dimensions	L1200mm*W900mm*H1850mm (47.2"×35.4"×72.8")
Machine Weight	⩽480 kg
Operating system	64-bit Windows 10
Supporting Software	Thunder Make
File Format	STL or Transformable Formats
Application Scenarios	Education and research, aerospace, medical devices, precision manufacturing, mold manufacturing, artistic products, and jewelry and luxury goods.
Warranty	2 Years

THUNDER SLM-175

REDEFINES INDUSTRIAL METAL 3D PRINTING MACHINE. WITH HIGH PRECISION, HIGH EFFICIENCY, AND ULTRA-COMPACT DESIGN



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