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About HBD

HBD is committed to further innovation, research, and expanding global presence in the LPBF industry.

Global leader

Recognized globally for developing and manufacturing LPBF equipment, with over 200 patents and prestigious certifications.

Cutting-edge solutions

Acclaimed metal 3D printing machines installed in 25+ countries, offering advanced capabilities.

Tailored to industries

Customized metal additive manufacturing solutions for aerospace, automotive, die and mold, dental, orthopedic, and more.

Innovation and quality

Continuous improvement and technological advancements to keep customers ahead.

Sustainability and satisfaction

Environmentally responsible manufacturing, comprehensive support, and customer satisfaction focus.

Milestone

2007-2012

The founder team is deeply involved in 3D printing, specializing in the research and development of metal (LPBF) 3D printing equipment, production and application technology research.

2013-2014

Officially launched industrial grade metal additive manufacturing equipment, and successfully delivered the printers to the market.

2015-2016

The HBD brand has been established - further innovation and iteration of metal additive manufacturing equipment, software and control system, process technology parameter library.

2017-2018

New headquarters in Shanghai to further explore the global market and deepen the application in various industries.

2019-2020

Launched multi-laser and large-format industrial LPBF metal additive manufacturing equipment, new released HBD 1000 is featured in application of aerospace.

2021

Completed the first round of financing of nearly RMB 400 million; new released HBD 1500 contributed to the development of nuclear energy innovation.

2022

Construction of Shanghai Lingang Industrial Zone with a total floor area of over 50,000 square meters commenced; HBD E500 for aerospace and high-end industry was launched to enter the international aerospace market.

Future

At HBD, our future direction is firmly set on advancing additive manufacturing to shape a greener and more innovative future for industry.

Product Evolution



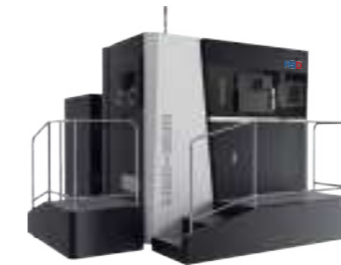
Launched HBD-150



Launched HBD-280



Upgraded HBD-80



Launched LACM 100, HBD-200, HBD-500, Upgraded HBD-150



Launched HBD 1200



Launched HBD E1000, Upgraded HBD 350

2013

2014

2015

2016

2017

2018

2019

2020

2021

2022

2023



Launched HBD-100, HBD-80



Upgraded HBD-100, HBD-280



Launched HBD-280T



Launched HBD-280F, HBD 350, HBD 1000



Launched HBD E500, LACM 150

Quality Assurance



190+
Process Testing



30+
Equipment inspections

We select top global suppliers to ensure high-quality components and rigorously test over 100 aspects, including raw materials, processes, and final products, with extended printing tests, to maintain equipment quality standards.

Safe and Stable



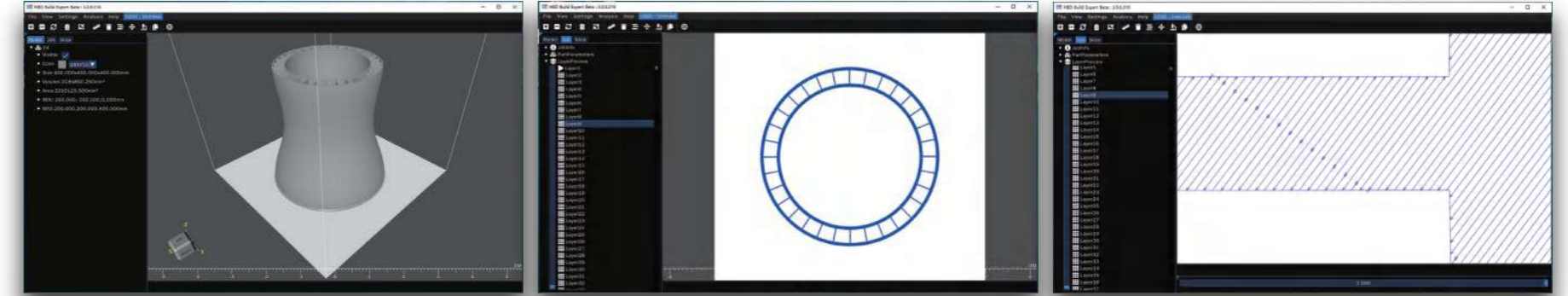
- More than ten years of experience in equipment development and production, the quality of the equipment is highly regarded by customers
- Integration of dozens of software and hardware security technologies to effectively guarantee the safety of personnel, equipment and products

- Long-life multi-stage purification circulation system with independent de-oxygenation, cartridge wetting treatment, efficient back-blowing and many other core functions to ensure the safety of the touring core and avoid frequent cartridge replacement
- Excellent cabin sealing and cabin atmosphere protection to reduce gas loss and shorten print preparation time
- Upgraded air circulation in the chamber with automatic airflow monitoring to ensure continuous high quality printing operations


Self-developed Control System





HBD Build Expert





 One-click start, easy to operate


 Accurate printing time


 Automatic data detection


 Multiple security checks

 Complete system operation log monitoring

 One-key path planning software

 Advanced laser scanning strategy

 Simple and stable operator interface

 Rapid data processing

Excellent Service and Support

Collaboration Begins with Service



Completed Training Programs

Complete training system and high standard practice assessment ensure operators would get proficient in the shortest time and quickly bring values to customers.

Specialized Technical Support

Professional technical and process development team could totally customize the solution for customers in different fields, in compliance with the development of the new materials and new technology, and provide fully technical support.

Well-designed Equipment Maintenance Plan

Well-designed equipment maintenance plan, provide professional installation and commissioning services, regular return visits and tracking, new technology timely application sharing, and fully equipment maintenance support.

Timely and Responsive Post-sales Service

Service available 24/7, online response within 2 hours, on-site warranty maintenance within 7 days, to solve customers' problem with the fastest way.

HBD Global Network





HBD-150 / 150D

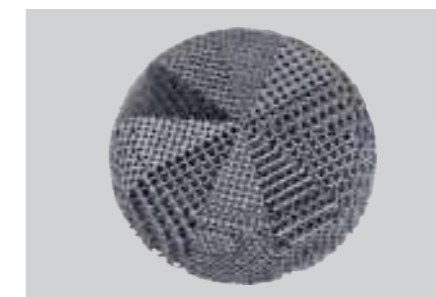
Equipment Features

With round base plate, HBD-150 is equipped with efficient and safe independent atmosphere purification system, sealed glove structure. It also reserves sealed powder adding and powder clearing holes, which could enable adding powder and clearing powder without opening the chamber door, providing safe and stable titanium printing solutions. HBD-150/150D could be applied in fields including dentistry, prototype, education and scientific research, material verification and customization.

Technical Parameters

Forming Size	φ159mm×100mm
Laser Power	300W / 300W×2 / 500W
Layer Thickness	10μm-40μm
Scanning Track Width	40μm-80μm
Scanning Speed	≤10000mm/s
Oxygen Content	≤100PPM
Protective Atmosphere	Integral sealed, automatic monitoring of oxygen content, recycling cleaning and collection coefficient ≥ 99%.
Relative Density	99.9%+
Typical Accuracy	0.05-0.1mm
Metal Powder	Stainless steel, Cobalt-chrome alloy, Tool steel, Titanium alloy, High temperature alloy, Hastelloy, Tungsten, Tantalum and some other refractory metals.
Software Package	Full open as hardware allowed.
Processing Parameter Package	Equipped and customizable.

3D Print Cases





HBD-200 / 200D

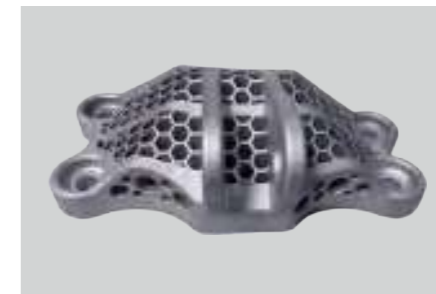
Equipment Features

With dual laser and dual galvanometer, HBD-200 is equipped with efficient and safe independent atmosphere purification system, sealed glove structure, interface for powder addition and powder cleaning operation, which could enable adding powder and cleaning powder without opening the cabin door, providing safe and stable titanium printing solutions. HBD-200 could be applied in fields including dentistry, prototype, small mold, education and scientific research and customization.

Technical Parameters

Forming Size	270mm×170mm×120mm
Laser Power	300W×2 / 500W×2
Layer Thickness	10μm-40μm
Scanning Track Width	40μm-80μm
Scanning Speed	≤10000mm/s
Oxygen Content	≤100PPM
Protective Atmosphere	Integral sealed, automatic monitoring of oxygen content, recycling cleaning and collection coefficient ≥ 99%.
Relative Density	99.9%+
Typical Accuracy	0.05-0.1mm
Metal Powder	Stainless steel, Cobalt-chrome alloy, Tool steel, Titanium alloy, High temperature alloy, Hastelloy, Tungsten, Tantalum and some other refractory metals.
Software Package	Full open as hardware allowed.
Processing Parameter Package	Equipped and customizable.

3D Print Cases





HBD 350

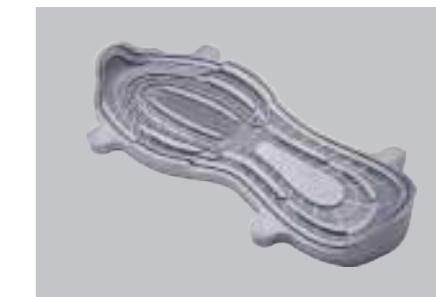
Equipment Features

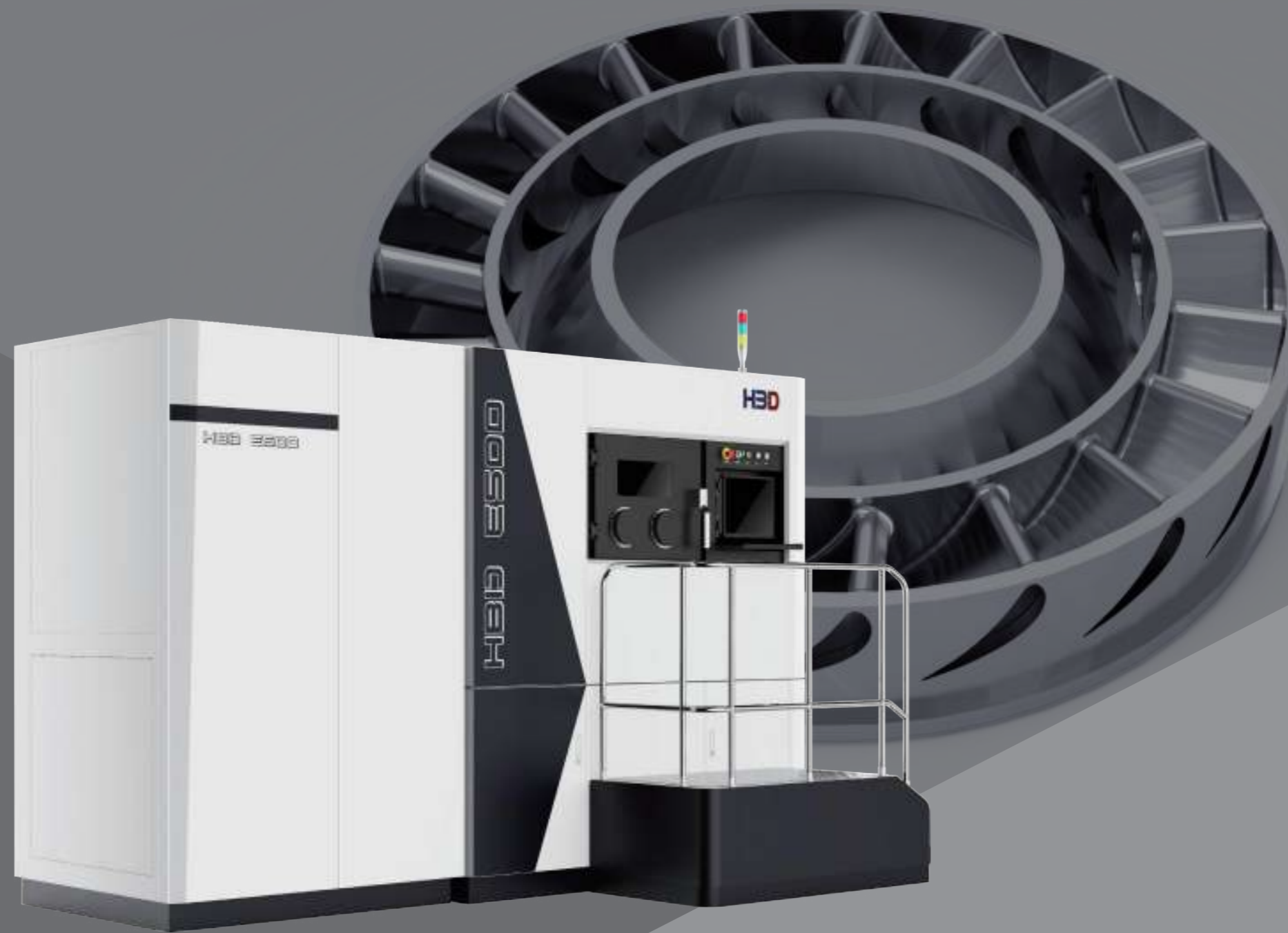
High-efficiency and high-quality printing equipment, with mainstream molding size, compatible with single/dual laser systems, efficient and stable powder coating system, closed automatic powder circulation system, independent long-acting multi-stage purification system, could meet high-efficiency, high-strength, high-quality, and continuous production needs. The 350 printers are suitable for mold, aerospace, medical equipment, automotive parts manufacturing and other fields.

Technical Parameters

Forming Size	325mm×325mm×400mm
Laser Power	500W / 500W×2 / 500W×3
Layer Thickness	20μm-120μm
Scanning Track Width	70μm-200μm
Scanning Speed	≤10000mm/s
Oxygen Content	≤100PPM
Protective Atmosphere	Integral sealed, automatic monitoring of oxygen content, recycling cleaning and collection coefficient ≥ 99%.
Relative Density	99.9%+
Typical Accuracy	0.05-0.2mm
Metal Powder	Stainless steel, Cobalt-chrome alloy, Tool steel, Titanium alloy, High temperature alloy, Aluminum alloy, Hastelloy, Tungsten, Tantalum and some other refractory metals.
Software Package	Full open as hardware allowed.
Processing Parameter Package	Equipped and customizable.

3D Print Cases





HBD E500

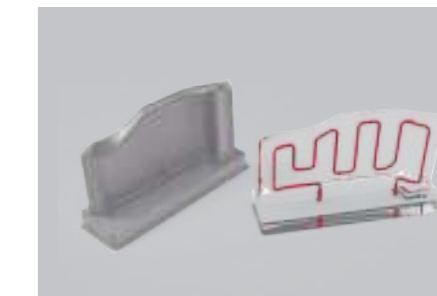
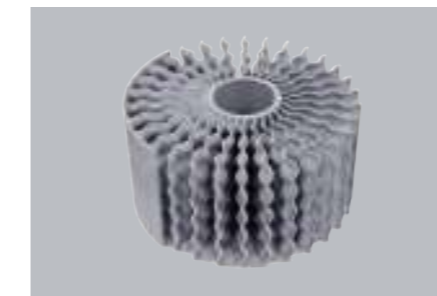
Equipment Features

With a preponderant large forming size, efficient multi-laser configuration, excellent gas flow performance and intelligent powder recoating monitoring system, realize the ultimate pursuit of high quality and consistency, combined with a unique, convenient and practical powder closed-loop management system, is suitable for continuous and batch production application scenarios.

Technical Parameters

Forming Size	430mm×520mm×520mm
Laser Power	500W×2 / 500W×3
Layer Thickness	20μm-120μm
Scanning Track Width	70μm-200μm
Scanning Speed	≤10000mm/s
Oxygen Content	≤100PPM
Protective Atmosphere	Integral sealed, automatic monitoring of oxygen content, recycling cleaning and collection coefficient ≥ 99%.
Relative Density	99.9%+
Typical Accuracy	0.05-0.2mm
Metal Powder	Stainless steel, Cobalt-chrome alloy, Tool steel, Titanium alloy, High temperature alloy, Aluminum alloy, Hastelloy, Tungsten, Tantalum and some other refractory metals.
Software Package	Full open as hardware allowed.
Processing Parameter Package	Equipped and customizable.

3D Print Cases





HBD 1000

Equipment Features

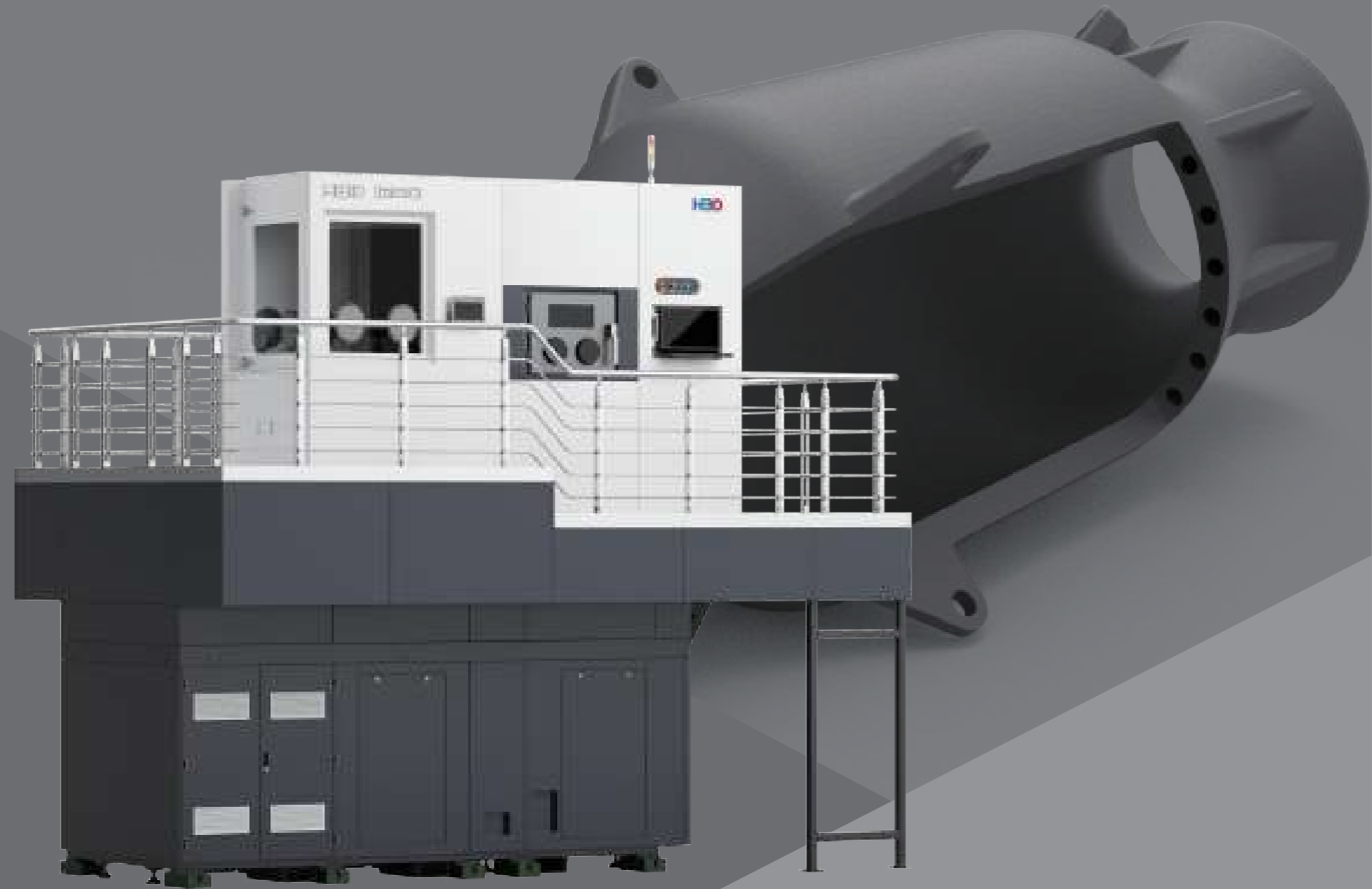
HBD 1000 is a four-laser high-quality and large-size printing equipment, with sealed automatic powder circulation system, independent long-acting & multi-stage purification system, and highly integrated post-processing unit, etc. It perfectly realizes intelligent parallel 7x24h uninterrupted working to meet medium and large size, super large size parts, and continuous production needs of small and medium batch production. It is suitable for aerospace, automotive parts manufacturing and other fields.

Technical Parameters

Forming Size	600mm×600mm×1000mm
Laser Power	500W×4
Layer Thickness	20μm-120μm
Scanning Track Width	70μm-200μm
Scanning Speed	≤10000mm/s
Oxygen Content	≤100PPM
Protective Atmosphere	Integral sealed, automatic monitoring of oxygen content, recycling cleaning and collection coefficient ≥ 99%.
Relative Density	99.9%+
Typical Accuracy	0.05-0.2mm
Metal Powder	Stainless steel, Cobalt-chrome alloy, Tool steel, Titanium alloy, Nickel-based alloy, Aluminum alloy, Hastelloy, Tungsten, Tantalum and some other refractory metals.
Software Package	Full open as hardware allowed.
Processing Parameter Package	Equipped and customizable.

3D Print Cases





HBD 1200

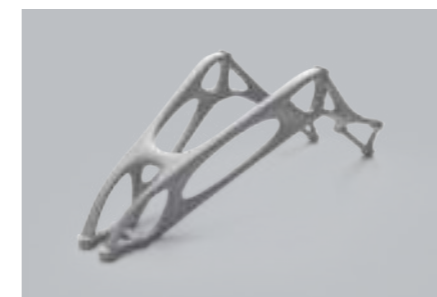
Equipment Features

As heightened and large printing size, efficient and high-quality printing equipment, HBD 1200 series is equipped with perfect powder management, safe and long-term filtration system, mature and excellent wind farm design, stable and intelligent multi-paths design and control system to meet higher-size, higher-strength, and continuous production needs. HBD 1200 series are mainly applied in aerospace, automotive parts manufacturing and other fields.

Technical Parameters

Forming Size	430mm×460mm×1200mm
Laser Power	500W×2
Layer Thickness	20μm-120μm
Scanning Track Width	70μm-200μm
Scanning Speed	≤10000mm/s
Oxygen Content	≤100PPM
Protective Atmosphere	Integral sealed, automatic monitoring of oxygen content, recycling cleaning and collection coefficient ≥ 99%.
Relative Density	99.9%+
Typical Accuracy	0.05-0.2mm
Metal Powder	Stainless steel, Cobalt-chrome alloy, Tool steel, Titanium alloy, Nickel-based alloy, Aluminum alloy, Hastelloy, Tungsten, Tantalum and some other refractory metals.
Software Package	Full open as hardware allowed.
Processing Parameter Package	Equipped and customizable.

3D Print Cases





HBD E1000

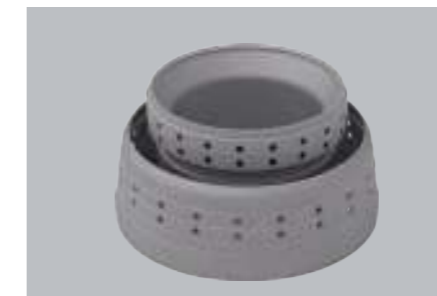
Equipment Features

The HBD E1000 is a metal additive manufacturing device specially tailored for aerospace manufacturing. It comes equipped with a high-quality eight-laser system, striking a balance between high efficiency and precision. With an enlarged large-format printing capacity and a cutting-edge optimized gas flow design, it enhances the consistency of full-size printing quality. It also offers an independently developed software system, aiming to deliver more efficient additive manufacturing solutions for the aerospace manufacturing industry.

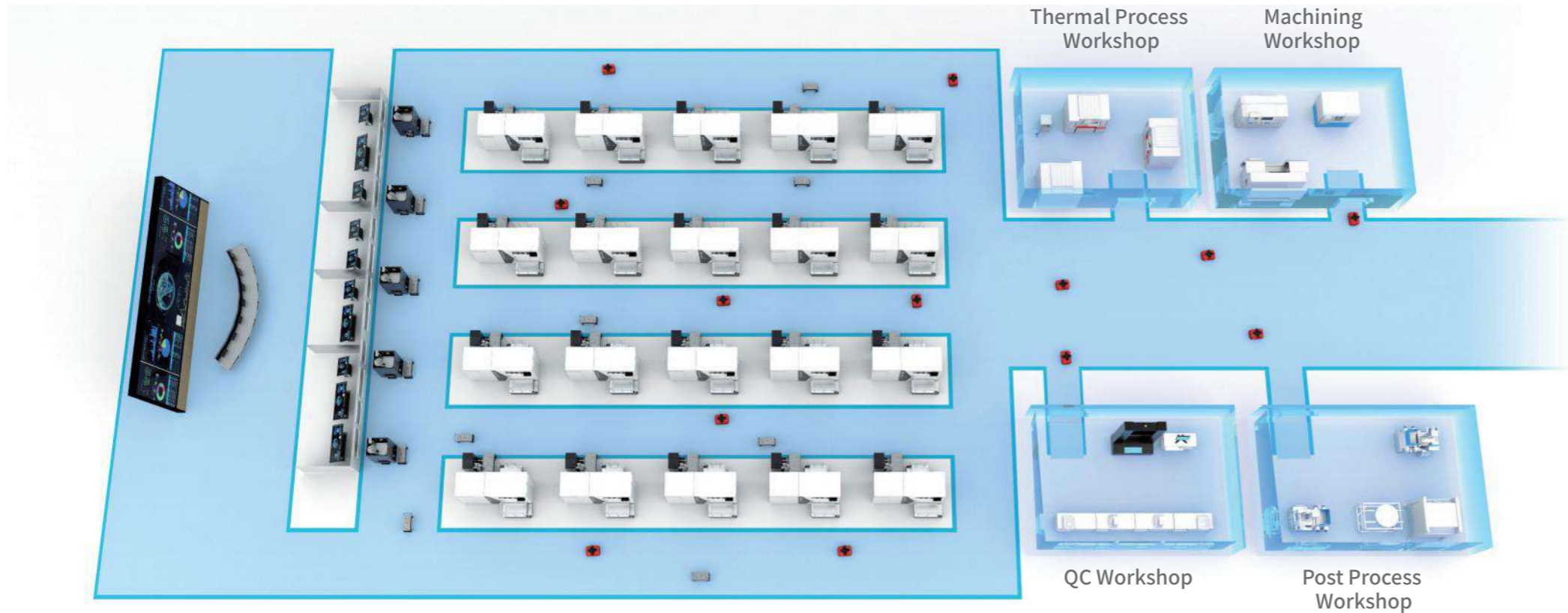
Technical Parameters

Forming Size	660mm×660mm×1250mm
Laser Power	500W×8
Layer Thickness	20μm-120μm
Scanning Track Width	70μm-200μm
Scanning Speed	≤10000mm/s
Oxygen Content	≤100PPM
Protective Atmosphere	Integral sealed, automatic monitoring of oxygen content, recycling cleaning and collection coefficient ≥ 99%.
Relative Density	99.9%+
Typical Accuracy	0.05-0.2mm
Metal Powder	Stainless steel, Cobalt-chrome alloy, Tool steel, Titanium alloy, Nickel-based alloy, Aluminum alloy, Hastelloy, Tungsten, Tantalum and some other refractory metals.
Software Package	Full open as hardware allowed.
Processing Parameter Package	Equipped and customizable.

3D Print Cases



AM Machinery and Plant Layout




MES system

Equipment layout

Post-processing Station

01



Customized AM solutions provided for plant implementation based on customer needs.

02



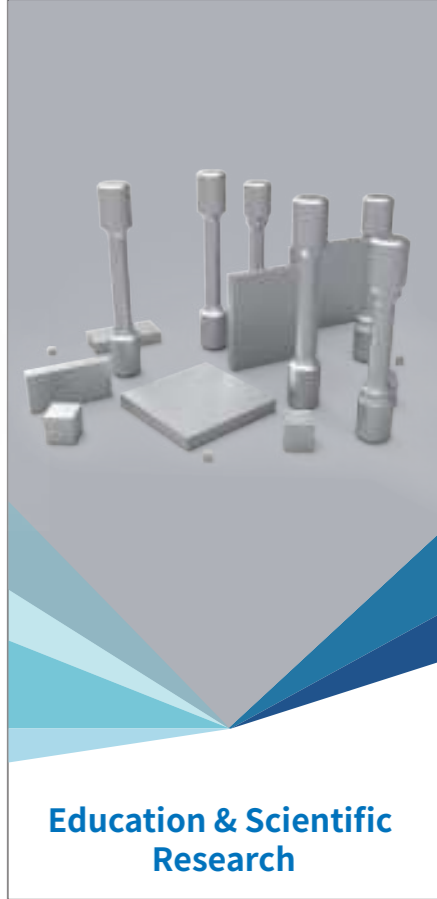
Integration of intelligent and automated production modes to optimize production chain and increase revenue.

03



Advancing cooperation and competitiveness through deep application development and value creation for partners.

Industry Applications



Medical



Dental

INDUSTRY DEMANDS:

1. Manufacture dentures, stents, and related dental products with high efficiency.
2. Meet the stringent requirements for the fitness of patients.

METAL 3D PRINTING SOLUTIONS:

1. Enhance the efficiency of fabricating dental products through automated production exceeding 24 hours.
2. Eliminate complex procedures and human errors to ensure the high-quality production of dental products.

Orthopedics

INDUSTRY DEMANDS:

1. Tailored to suit each individual patient.
2. Attain efficient customization, saving operation time, and reducing surgical risks.
3. Enhance the compatibility with human mechanics and biocompatibility.

METAL 3D PRINTING SOLUTIONS:

1. Ensure a precise match between 3D printed parts and the patient's bone through accurate model establishment and precise manufacturing.
2. Validate the fabricated parts, perform surgical simulations, and enhance the success rate of procedures.
3. Improve the compatibility of prosthetic mechanics with patient bones by fabricating trabecular bones and porous structures.



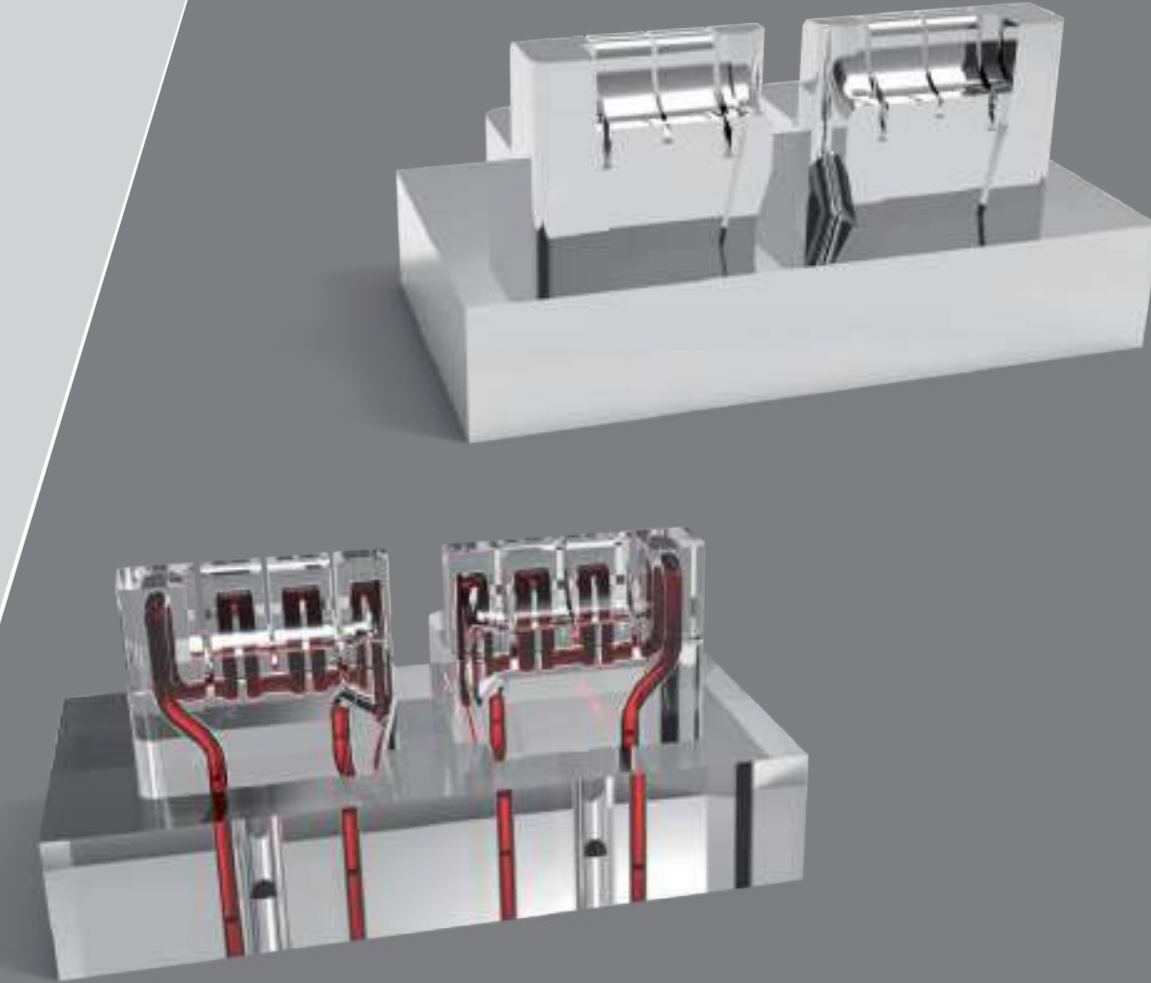
Die & Mold

INDUSTRY DEMANDS:

1. Reduce injection cooling time and enhance mold removal efficiency.
2. Address issues related to controlling mold temperature during the cooling process, preventing product deformation caused by uneven mold temperatures.
3. Shorten the mold development cycle and reduce the cost of mold injection manufacturing.

METAL 3D PRINTING SOLUTIONS:

1. Opt for direct mold printing with integrated conformal channels, providing a larger cooling surface area and achieving a high cooling efficiency, resulting in a production efficiency increase of over 35%.
2. By utilizing conformal cooling, ensure even distribution of mold temperatures, effectively preventing product defects such as warping, cracking, flash, and surface imperfections.
3. Metal 3D printing enables limitless design possibilities with minimal manual intervention, significantly reducing the mold production cycle and cutting down manufacturing costs associated with multiple processes.



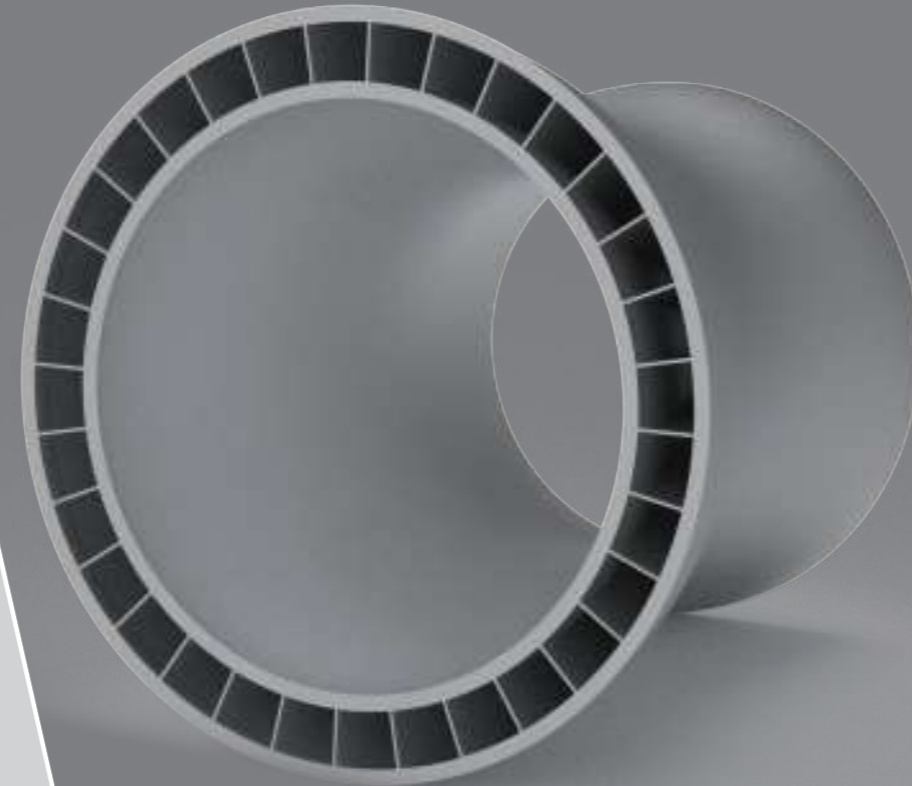
Aerospace

INDUSTRY DEMANDS:

1. Shorten the R&D cycle.
2. Reduce the number of parts assembly steps and create products with complex structures as a single unit.
3. Enhance material utilization and reduce costs.
4. Achieve the goal of fabricating lightweight parts for aerospace components.

METAL 3D PRINTING SOLUTIONS:

1. By eliminating intricate traditional processing procedures and the need for molds, design drawings can be directly transformed. This significantly shortens the parts preparation cycle and enhances research and development efficiency.
2. Combine multiple parts in various dimensions to achieve integrated molding of multiple components and complex structures, thereby improving production efficiency.
3. In the aerospace sector, where raw materials are exceptionally costly, traditional subtractive manufacturing results in low raw material utilization and prohibits material recycling, leading to increased production costs. However, metal 3D printing technology not only boasts high raw material utilization but also facilitates recycling through simple post-processing, significantly reducing production costs.
4. Metal 3D printing utilizes topological optimization to consolidate multiple parts into a single load-bearing component. With precise and efficient path planning software, it enables the cost-effective printing of complex structures, thereby reducing part weight and achieving lightweight designs.
5. Create engine parts with intricate cooling channels to vastly enhance engine cooling efficiency. This same principle can also preheat the oil circuit, improving combustion efficiency and preventing oil circuit coking, thereby ensuring an effective service environment.



Automotive

INDUSTRY DEMANDS:

1. Despite having a large production capacity, the extended cooling period is attributed to the unique design of the insert.
2. Excessive mold insert temperatures result in surface oxidation, leading to a shortened service life.
3. Excessive product surface temperatures cause an orange peel pattern and severe deformation.

METAL 3D PRINTING SOLUTIONS:

1. Incorporate a design featuring conformal cooling channels and utilize 3D printed inserts to reduce the cooling cycle duration.
2. Lower the insert body temperature from the original 120°C to 50°C.
3. Significantly reduce the product's cooling cycle time, going from the original 120 seconds to 45 seconds, thereby enhancing production efficiency by 2.5 times.
4. Achieve product surfaces that fully meet requirements, eliminating deformation issues altogether.

