

HT1001P

> DESIGNED FOR PRODUCTION

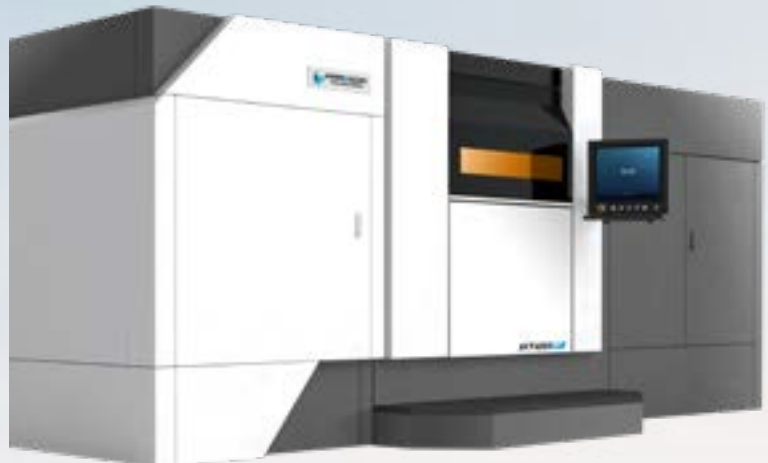
HT1001P CAMS system is designed from the ground up with industrial manufacturing in mind. With continuous batch production capability, it allows intensive manufacturing cycles with little down time between builds. The throughput is also enhanced with efficient top-feeding system and fully digital multi-laser scanning strategy.

> ENHANCED CAPABILITIES

Featuring with 1000x500x450mm build cylinder, HT1001P offers unparalleled production of large parts in a single piece or numerous small parts in one build. It offers a higher build chamber temperature reaching 220°C, allowing for processing high performance materials such as PA6 and PA12.

> OPEN AND MODULAR

HT1001P like all Farsoon systems is fully open, which means Farsoon systems are truly open industrial manufacturing systems offering open parameters, materials and applications. HT1001P's modular design allows for easy addition of future stations for pre and post processing and integration into existing production lines.



HVAC HOUSING

MATERIAL: FS 3300PA

SYSTEM: HT1001P

The automotive HVAC housing, measuring 810×465×431mm, is fabricated as a single piece in 18 hours by Farsoon's HT1001P CAMS system. This 3D-printed part is produced with excellent dimensional accuracy with Farsoon's FS 3300PA material that is developed and produced in-house.

Farsoon reserves the right to change the technical data without notice. Farsoon®, Buildstar, Makestar® are registered trademarks of Farsoon Technologies. Last Change: 2021-03-30

TECHNICAL DATA

HT1001P

External Dimensions (L×W×H)	5585×2000×2980 mm (Full module) , 2680×2000×2980 mm (Build Station only)
Build Cylinder Size¹ (L×W×H)	1000×500×450 mm
Net Weight	Approx. 4200 KG / 3000KG
Layer Thickness	0.06~0.3 mm
Volume Build Rate²	Up to 15 L/h
Scanning Speed	Max. 15.2 m/s
Laser Type	Dual CO ₂ laser, 2×100W
Scanner	High-precision three-axis digital galvo system
Max. Chamber Temperature	220°C
Thermal Field Control	Multi-zone heater & Intelligent temperature control systems
Temperature Regulation	Continuous real-time build surface temperature monitoring & optimization
Inert Gas Protection	Nitrogen
Operating System	64 bit Windows10
UI Mode	Real-time interchangeable expert mode and production mode
Comprehensive Software	BuildStar, MakeStar®
Key Software Features	Open machine key parameters, real-time build parameter modification, three-dimensional visualization, diagnostic functions
Data File Format	STL
Power Supply	EUR/China: 380-400V, 50/60Hz, three-phase US: transformer sold with machine
Operating Ambient Temperature	22-28°C
Materials	FS 3300PA, FS 3401GB, more materials to come

¹ The functional build volume depends on the parts/materials. ² Volume build rate depends on the parts/materials.

FLIGHT 403P Series

> FIBER

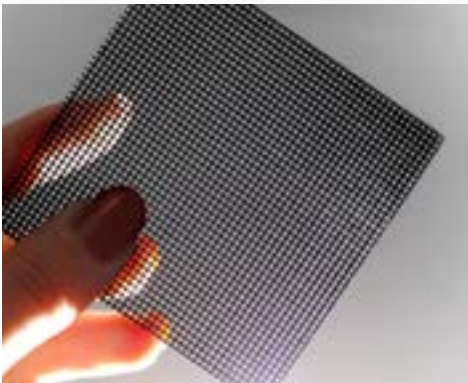
Equipped with powerful fiber lasers instead of standard CO₂ lasers, Flight 403P series is able to deliver greatly increased power to the powder bed due to its more robust and stable nature of fiber lasers. It also provides improved laser longevity which is key when considering ROI for manufacturing applications.

> FINE

Developed with a set of unique scanning algorithms and a powerful dynamic optical system, Flight™ Technology offers homogenous energy distribution over the powder bed, resulting in high definition details as small as 0.3mm while achieving better mechanical properties than that of the standard laser sintering.

> FAST

With robust laser power, improved energy distribution, and smaller laser spot size, Flight 403P series offers full sintering of powder in significantly short time. With the scanning speed of over 20m/s and large build volume, Flight 403P series achieve extreme sintering speed that pushes the additive manufacturing productivity to a new level.



GRID STRUCTURE

MATERIAL: FS 3201PA-F

SYSTEM: FLIGHT HT403P

The minimum wall thickness of grid structure is only 23µm. Farsoon's innovative Flight™ Technology can fully meet the fast and small batch production as well as the high definition details as small as 0.3mm. The PA12 based black material tailored for Flight™ Technology can fully meet the mechanical property requirements such as high temperature resistance, which is fit for various testing scenarios as the final product. Flight™ Technology significantly improves both efficiency and cost, greatly shortens the development cycle of the product.

Farsoon reserves the right to change the technical data without notice. Farsoon®, Buildstar, Makestar® are registered trademarks of Farsoon Technologies. Last Change: 2021-03-30

TECHNICAL DATA

Flight SS403P

Flight HT403P

External Dimensions (LxWxH)	2470×1500×2145 mm	
Build Cylinder Size¹ (LxWxH)	400×400×450 mm or 400×400×540 mm (high-cylinder option)	
Net Weight	Approx. 3000 KG	
Layer Thickness	0.06~0.3 mm	
Volume Build Rate²	Up to 6 L/h	
Scanning Speed	Max. 20 m/s	
Laser Type	Fiber Laser, 1×500W	
Laser Spot Size	Approx. 70 µm contour, Approx. 500 µm fill	
Scanner	High-precision three-axis digital galvo system	
Max. Chamber Temperature	190°C	220°C
Thermal Field Control	Multi-zone heater & Intelligent temperature control systems	
Temperature Regulation	Continuous real-time build surface temperature monitoring & optimization	
Inert Gas Protection	Nitrogen	
Operating System	64 bit Windows10	
Comprehensive Software	BuildStar, MakeStar®	
Key Software Features	Open machine key parameters, real-time build parameter modification, three-dimensional visualization, diagnostic functions	
Data File Format	STL	
Power Supply	EUR/China: 380-400V, 50/60Hz, three-phase US: transformer sold with machine	
Operating Ambient Temperature	22-28°C	
Materials	FS 3201PA-F, FS 3300PA-F, more materials to come	

¹ The functional build volume depends on the parts/materials. ² Volume build rate depends on the parts/materials.

403P Series

> HIGH EFFICIENCY

Featuring with scanning speed of up to 15.2 m/s, high-efficiency roller system, and exchangeable powder cartridge, the 403P series offers enhanced productivity and lower price per part.

> HIGH TEMPERATURE

The 403P series offers a high temperature configuration. Enhanced temperature shielding, laser power, and thermal control enable HT403P to process high-performance materials such as PA6 for end-use applications. Equipped with powerful eight-zone heater and intelligent thermal control system, the 403P series allows for best in class temperature control with increased accuracy of final parts.

> OPEN PLATFORM

The 403P series like all Farsoon systems is fully open, which means Farsoon systems are truly open industrial manufacturing systems offering open parameters, materials and applications, allowing for unprecedented freedom and flexibility when it comes to PLS production.



REARVIEW MIRROR HOUSING

MATERIAL: FS 6140GF

SYSTEM: HT403P

Rearview mirror housing is fabricated in a single piece with no need of assembly, which can efficiently verify the dimensional accuracy of each component. The comprehensive performance of the material ensures the part not be damaged after repeated testing. It can be directly used as prototype to verify the performance of high-strength material, especially for the part that vibrates repeatedly with great force.

Farsoon reserves the right to change the technical data without notice. Farsoon®, Buildstar, Makestar® are registered trademarks of Farsoon Technologies. Last Change: 2021-03-30

TECHNICAL DATA	HS403P	SS403P	HT403P
External Dimensions (L×W×H)	2470×1500×2145 mm		
Build Cylinder Size¹ (L×W×H)	400×400×450 mm		
Net Weight	Approx. 3060 KG		
Layer Thickness	0.06~0.3 mm		
Volume Build Rate²	Up to 2.7 L/h	Up to 4.0 L/h	Up to 4.0 L/h
Scanning Speed	Max. 10 m/s	Max. 15.2 m/s	Max. 15.2 m/s
Laser Type	CO ₂ Laser, 1×60W	CO ₂ Laser, 1×100W	CO ₂ Laser, 1×100W
Scanner	High-precision three-axis digital galvo system		
Max. Chamber Temperature	190°C	190°C	220°C
Thermal Field Control	Eight-zone heater & Intelligent temperature control systems		
Temperature Regulation	Continuous real-time build surface temperature monitoring & optimization		
Inert Gas Protection	Nitrogen		
Operating System	64 bit Windows10		
UI Mode	Real-time interchangeable expert mode and production mode		
Comprehensive Software	BuildStar, MakeStar®		
Key Software Features	Open machine key parameters, real-time build parameter modification, three-dimensional visualization, diagnostic functions		
Data File Format	STL		
Power Supply	EUR/China: 380-400V, 50/60Hz, three-phase US: transformer sold with machine		
Operating Ambient Temperature	22-28°C		
Materials	FS 3300PA, FS 3250MF, FS 3401GB, FS 3400CF, FS 4100PA, Ultrasint X028 (for HT403P only), FS 1092A-TPU, FS 1088A-TPU (TPU for SS403P/HT403P)		

¹ The functional build volume depends on the parts/materials. ² Volume build rate depends on the parts/materials.

FLIGHT 252P Series

> FIBER LASER

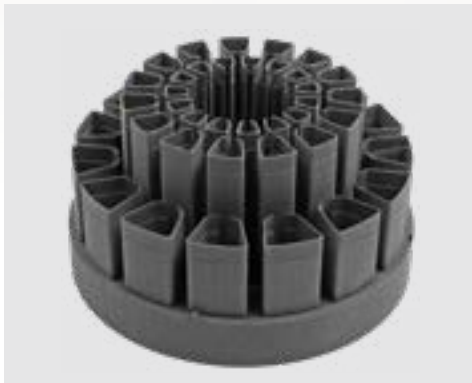
Equipped with powerful fiber laser instead of standard CO₂ laser, Flight 252P series is able to deliver greatly increased power to the powder bed due to its more robust and stable nature of fiber laser. It also provides improved laser longevity which is key when considering ROI for manufacturing applications.

> HIGH TEMPERATURE

The Flight 252P series offers two configurations capable of achieving build chamber temperatures from up to 220°C (HT) to 280°C (ST). Enhanced thermal control, temperature shielding components, and enhanced parameters enable the users to process high-performance materials.

> POWERFUL PLATFORM

Featuring with increased energy absorption of fiber laser, paired with truly open parameters, Flight 252P series is capable of accessing a much wider range of process-able materials and operational flexibility compared to standard laser sintering systems, allowing for fully freedom of material and application development.



ELECTRONIC WIRE FRAME

MATERIAL: FS 3201PA-F

SYSTEM: Flight HT252P

The electronic wire frame features wall thickness of only 0.3mm. Farsoon's innovative Flight™ Technology can fully meet the fast and small batch production as well as the high definition details as small as 0.3mm. The PA12 based black material tailored for Flight™ Technology can fully meet the mechanical property requirements such as high temperature resistance, which is fit for various testing scenarios as the final product. Flight™ Technology significantly improves both efficiency and cost, greatly shortens the development cycle of the product.

Farsoon reserves the right to change the technical data without notice. Farsoon®, Buildstar, Makestar® are registered trademarks of Farsoon Technologies. Last Change: 2021-03-30

TECHNICAL DATA

Flight ST252P

Flight HT252P

External Dimensions (L×W×H)	1735×1225×1975 mm	
Build Cylinder Size¹ (L×W×H)	250×250×320 mm	
Net Weight	Approx. 2100KG	
Layer Thickness	0.06~0.3 mm	
Volume Build Rate²	Up to X L/h	Up to X L/h
Scanning Speed	Max. 15 m/s	
Laser Type	Fiber Laser, 1×300W	
Scanner	High-precision digital galvo system	
Max. Chamber Temperature	280°C	220°C
Thermal Field Control	Eight-zone heater & Intelligent temperature control systems	
Temperature Regulation	Continuous real-time build surface temperature monitoring & optimization	
Inert Gas Protection	Nitrogen	
Operating System	64 bit Windows10	
UI Mode	Real-time interchangeable expert mode and production mode	
Comprehensive Software	BuildStar, MakeStar®	
Key Software Features	Open machine key parameters, real-time build parameter modification, three-dimensional visualization, diagnostic functions	
Data File Format	STL	
Power Supply	EUR/China: 380-400V, 50/60Hz, three-phase US: transformer sold with machine	
Operating Ambient Temperature	22-28°C	
Materials	FS 3201PA-F, FS 3300PA-F, more materials to come	

¹ The functional build volume depends on the parts/materials. ² Volume build rate depends on the parts/materials.

252P Series

> HIGH TEMPERATURE

The 252P series offers two configurations capable of achieving build chamber temperatures from up to 220°C (HT) to 280°C (ST). Enhanced temperature shielding, laser power, and thermal control enable the 252P series to process high-performance materials such as PA6, PA66, and PPS for end-use applications.

> PRODUCTION INTERFACE

The 252P series features a streamlined touch screen based UI configuration for the production environment. With the capability to switch between production mode and expert mode, the 252P series offers the user both easy operation and intelligent control.

> OPEN PLATFORM

The 252P series like all Farsoon systems is fully open, which means Farsoon systems are truly open industrial manufacturing systems offering open parameters, materials and applications, allowing for unprecedented freedom and flexibility in manufacturing and material development.



ENGINE INTAKE MANIFOLD

MATERIAL: FS 6140GF

SYSTEM: HT252P

The intake manifold is printed in a single piece used for the functional verification for the engine. Featuring with excellent mechanical properties such as high temperature and high pressure resistance, this part produced with FS 6140GF (PA6) material has passed the runner flow test, thermal shock test, humidity test, high temperature and high pressure test, and the pulsation test during the development phase, in which the runner flow test result shows it is equivalent to that of traditional injection molded parts, and the leakage after all tests is less than 50cc/min. It has accelerated design iteration and R&D cycle time, fully meets the environmental layout and functional verification requirements of the engine.

Farsoon reserves the right to change the technical data without notice. Farsoon®, Buildstar, Makestar® are registered trademarks of Farsoon Technologies. Last Change: 2021-03-30

TECHNICAL DATA	ST252P	HT252P
External Dimensions (L×W×H)	1735×1225×1975 mm	
Build Cylinder Size¹ (L×W×H)	250×250×320 mm	
Net Weight	Approx. 2100KG	
Layer Thickness	0.06~0.3 mm	
Volume Build Rate²	Up to 2.5 L/h	Up to 1.5 L/h
Scanning Speed	Max. 10m/s	
Laser Type	CO ₂ laser, 1×100W	CO ₂ laser, 1×60W
Scanner	High-precision digital galvo system	
Max. Chamber Temperature	280°C	220°C
Thermal Field Control	Eight-zone heater & Intelligent temperature control systems	
Temperature Regulation	Continuous real-time build surface temperature monitoring & optimization	
Inert Gas Protection	Nitrogen	
Operating System	64 bit Windows10	
UI Mode	Real-time interchangeable expert mode and production mode	
Comprehensive Software	BuildStar, MakeStar®	
Key Software Features	Open machine key parameters, real-time build parameter modification, three-dimensional visualization, diagnostic functions	
Data File Format	STL	
Power Supply	EUR/China: 380-400V, 50/60Hz, three-phase US: transformer sold with machine	
Operating Ambient Temperature	22-28°C	
Materials	FS 3300PA, FS 3400CF, FS 3401GB, FS 3250MF, FS 4100PA, Ultrasint X028, FS 8100PPS (for ST252P only), FS 1092A-TPU, FS 1088A-TPU	

¹ The functional build volume depends on the parts/materials. ² Volume build rate depends on the parts/materials.

eForm

> COST PERFORMANCE

The eForm is an entry level industrial system with all the functionality and capabilities. With state of the art processing capability combined with powerful control software, the eForm is able to provide cost-effective industrial grade solutions while ensuring high quality performance.

> PRODUCTION INTERFACE

The eForm features a streamlined touch screen based UI configuration for the production environment. With the capability to switch between production mode and expert mode, the eForm offers the user both easy operation and intelligent control.

> OPEN PLATFORM

The eForm like all Farsoon systems is fully open, which means Farsoon systems are truly open industrial manufacturing systems offering open parameters, materials and applications, allowing for unprecedented freedom and flexibility in manufacturing and material development.



AUTOMOTIVE FUSE BOX

MATERIAL: FS 3300PA

SYSTEM: eForm

The automotive fuse box is used to integrate the switches and electrical control components, which has many grooves and buckles inside the part. With traditional CNC method combined with manual bonding, it is hard to meet the precision requirement and easy to crack. With SLA or other 3D printing technologies, it is hard to meet mechanical property requirements such as the strength and toughness. While using Farsoon's plastic laser sintering technology, it can fully meet the mechanical property requirements and the 3D printed part can be directly used as end-use functional parts.

Farsoon reserves the right to change the technical data without notice. Farsoon®, Buildstar, Makestar® are registered trademarks of Farsoon Technologies. Last Change: 2021-03-30

TECHNICAL DATA

eForm

External Dimensions (L×W×H)	1735×1225×1975 mm
Build Cylinder Size¹ (L×W×H)	250×250×320 mm
Net Weight	Approx. 2100KG
Layer Thickness	0.06~0.3 mm
Volume Build Rate²	Up to 0.8 L/h
Scanning Speed	Max. 7.6 m/s
Laser Type	CO ₂ laser, 1×30W
Scanner	High-precision digital galvo system
Max. Chamber Temperature	190°C
Thermal Field Control	Eight-zone heater & Intelligent temperature control systems
Temperature Regulation	Continuous real-time build surface temperature monitoring & optimization
Inert Gas Protection	Nitrogen
Operating System	64 bit Windows10
UI Mode	Real-time interchangeable expert mode and production mode
Comprehensive Software	BuildStar, MakeStar®
Key Software Features	Open machine key parameters, real-time build parameter modification, three-dimensional visualization, diagnostic functions
Data File Format	STL
Power Supply	EUR/China: 380-400V, 50/60Hz, three-phase US: transformer sold with machine
Operating Ambient Temperature	22-28°C
Materials	FS 3300PA, FS 3250MF, FS 3400CF, FS 3401GB, FS 4100PA

1 The functional build volume depends on the parts/materials. 2 Volume build rate depends on the parts/materials.

Powder Management System



FEATURES

The all-new Farsoon PMS -- polymer powder handling system, featuring high-efficiency and operational ease, is the ultimate choice for industrial scale plastic additive manufacturing production. Integrated with multiple powder handling process including used powder recycle & storage, new powder supply, high-speed mixing, and powder sieving, the robust PMS system enables a streamlined material workflow with minimum down-time of the 3D printing machines, with improved throughput and lower cost per part.

> High-efficiency

Process capability up to 80L volume polymer powder in only 8 minutes

> Reduced Material & Operational Cost

Less manual labor required & lower material cost with powder refreshment rate as low as 20%

> Improved Process Control

Excellent measuring accuracy & handling process with customizable mixing ratio

> Fully Sealed Powder Handling Process

Less powder contact, improved operational safety

> Design for Production

Robust capacity suits multiple machine layout

TECHNICAL DATA

Application	FS3300PA, FS3401GB, FS3300PA-F
External Dimension (L x W x H)	3250 x 1610 x 2030 mm
Net Weight	1500 kg
Pneumatic powder conveying capacity	5 kg / min
Batch Processing Capacity	80 L / 8 min
Compressed air Pressure	0.5-0.7 Mpa
Compressed air Consumption	670 L / min
Power Supply	PMS: 25Kw; Breakout Station: 0.18Kw 380V, 3~/N/PE, 50/60Hz

403P Series External Cooling Station



FEATURES

The Farsoon 403P Series External Cooling Station offers efficient cooling and maximizes production yield at the same time. It is designated for cooling the build cylinder part cake right after printing job completion for continuous workflow, removing the need for long cool down time inside the main system.

The External Cooling Station process is protected under a controlled inert gas atmosphere for uniform cooling of the powder cake, ensuring optimal finished part surface, color, size accuracy and performance.

The users can further optimize the Cooling process by controlling the consumption of Nitrogen and cooling time to suit the application needs.

Farsoon reserves the right to change the technical data without notice. Farsoon®, Buildstar, Makestar® are registered trademarks of Farsoon Technologies. Last Change: 2021-03-30

TECHNICAL DATA

Application	External Cooling Station for 403P Series with controlled cooldown
--------------------	---

External Dimension (L x W x H)	880 x 480 x 1200 mm
---------------------------------------	---------------------

Net Weight	45 kg
-------------------	-------

Power Supply	200-240V (line to line), 6A, 50/60Hz, single phase
---------------------	--

Inert Gas Protection	Nitrogen
-----------------------------	----------

Recommended Inert Gas Consumption in Process	15 L/min
---	----------

Recommended Pressure in Process	0.4 MPa
--	---------

FS721M

> PRODUCTION READY

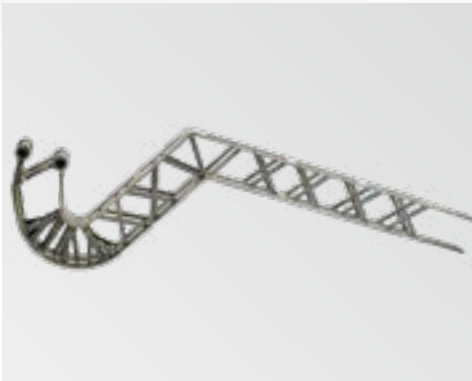
Developed with an industry-leading build volume of 720×420×420mm, combined with powerful dual or quad 500W laser options, the FS721M is able to achieve significantly increased throughput for large-scale parts or extended industrial series production.

> PRECISION + QUALITY

Farsoon's advanced software control and precise scanning system offer uniform performance in multi-laser overlap zones. Continuous powder feeding, optimized gas flow and integrated filter module enable the uniform melting process of metal material. Powerful build process controls & real-time re-coating monitoring ensure the optimal industrial build quality.

> EASE OF USE

The FS721M's integrated conveyer system, breakout station and advanced powder handling system allow for an efficient and safe build cylinder transportation and fully-sealed depowdering process. Features such as advanced calibration and electric leveling offer streamlined workflow. The FS721M is a truly open platform offers the user flexibility to tailor processing parameters for industrial applications and costcompetitive metal additive manufacturing.



AEROSPACE ROCKER ARM

MATERIAL: FS 316L

SYSTEM: FS721M

The aerospace rocker arm is topology optimized with the size of 665×60×240mm. It is produced in a single piece by Farsoon's large-format metal laser sintering system FS721M. Compared to traditional machining part, this 3D printed part ensures the equivalent mechanical property and structural strength but weight reduction by 35%.

Farsoon reserves the right to change the technical data without notice. Farsoon®, Buildstar, Makestar® are registered trademarks of Farsoon Technologies. Last Change: 2021-03-30

TECHNICAL DATA

FS721M

External Dimensions (L×W×H)	5200×2800×3900mm
Build Cylinder Size¹ (L×W×H)	720×420×420 mm (not including build plate thickness)
Net Weight	Approx. 5500 kg
Layer Thickness	0.02 - 0.1mm
Scanning Speed	Max. 10.0 m/s
Laser Type	Dual Lasers, 2×500W or Quad Lasers, 4×500W
Scanner	High-precision digital galvo system
Laser Spot Size	Approx. 70μm contour, 70-200μm fill
Inert Gas Protection	Argon/Nitrogen
Average Inert Gas Consumption in Process	<5 L / min
Operating System	64 bit Windows10
Comprehensive Software	BuildStar, MakeStar®
Key Software Features	Open machine key parameters, real-time build parameter modification, three-dimensional visualization, diagnostic functions
Data File Format	STL
Power Supply	EUR/China: 380-400V, 50/60Hz, three-phase US: transformer sold with machine
Operating Ambient Temperature	22-28°C
Materials²	FS 316L, FS TA15, FS Ti6Al4V, FS AlSi10Mg*, FS IN718*, FS GH3536*, FS 18Ni300*, more materials to come

¹ The functional build volume depends on the parts/materials.

² The materials marked with * are in the build process development.

FS621M

> EXTRA-LARGE BUILD VOLUME

With a build plate size of 620×620mm and vertical axis of 1.1 meter, the FS621M features one of the largest metal laser sintering build volumes on the market. The expansive build envelope opens new possibilities for large-scale metal production that couldn't achieve before in industries such as aerospace, oil and gas, and many others.

> SPEED + QUALITY

Equipped with a powerful single 1000W laser or quad 500W lasers, the FS621M offers unparalleled productivity. It is a truly open platform enables the user tailor build parameters for cost-competitive metal additive manufacturing. An advanced dynamic 3-axis scanning system, powerful build process control and real-time recoating monitoring ensure its optimal build quality.

> OPTIMIZED OPERATION

The FS621M's integrated filter module features secondary circulating system and dual-station filter design, allowing for exchanging of filters without disturbing the build process. The powder handling system shares a common powder container design for loading, unloading and sieving, which offers fully-sealed powder handling, easy transportation between the stations and safe storage of material.



TURBINE BLADE OF SPACECRAFT ENGINE

MATERIAL: ALUMINUM ALLOY

SYSTEM: FS621M

The turbine blade of spacecraft engine is fabricated by Farsoon's large scale metal laser sintering platform FS621M partnering with the leading aerospace service provider Falcontech. This part measures 590×590×88mm, and fully meets the precision and surface roughness requirements. Using traditional manufacturing methods, it results in a long production cycle and low precision. While using Farsoon's metal laser sintering technology, it can be produced in a single piece with no need of welding, fully meets the mechanical property requirements.

TECHNICAL DATA

FS621M

External Dimensions (L×W×H)	5800×3300×4000mm
Build Cylinder Size¹ (L×W×H)	620×620×1100mm (not including build plate thickness)
Net Weight	Approx. 9000 kg
Layer Thickness	0.02 - 0.1mm
Scanning Speed	Max. 15.2 m/s
Laser Type	Single Laser, 1×1000W or Quad Lasers, 4×500W
Scanner	High-precision three-axis digital galvo system
Laser Spot Size	Approx. 90μm contour, 90-200μm fill
Inert Gas Protection	Argon/Nitrogen
Average Inert Gas Consumption in Process	8 - 10 L / min
Operating System	64 bit Windows10
Comprehensive Software	BuildStar®, MakeStar®
Key Software Features	Open machine key parameters, real-time build parameter modification, three-dimensional visualization, diagnostic functions
Data File Format	STL
Power Supply	EUR/China: 380-400V, 50/60Hz, three-phase US: transformer sold with machine
Operating Ambient Temperature	22-28°C
Materials²	FS IN718, FS GH3536, FS AlSi10Mg, FS GH3230*, FS TA15*, FS Ti6Al4V*, FS IN625*, FS 316L*, more materials to come

¹ The functional build volume depends on the parts/materials.

² The materials marked with * are in the build process development.

FS421M

> DESIGNED FOR PRODUCTION

The FS421M is a truly industrial system with continuous production capability. With its 425x425x420mm build cylinder, FS421M is capable of producing large metal parts with a wide range of metal materials. The large build volume combined with a fully digital multi-laser galvo system offer the users enhanced production speed.

> EFFICIENCY + SAFETY

Equipped with a close-loop powder handling system, the powder supply, transport, feeding, and recycling of the FS421M are all integrated into the inert atmosphere. The highly efficient air filtration system allows for processing active materials, and the high capacity and auto-cleaning capability allow for extended use between filter changes.

> OPEN PLATFORM

The FS421M like all Farsoon systems is fully open, which means Farsoon systems are truly open industrial manufacturing systems offering open parameters, materials and applications, allowing for unprecedented freedom and flexibility when it comes to MLS production.



TURBINE COOLING TESTBED

MATERIAL: FS Ti6Al4V

SYSTEM: FS421M (DUAL-LASER)

The turbine cooling testbed is used for testing different turbine blades, features complex internal structures in inner chamber for inserting various shapes of blades for airflow test. The complex external trim design increase the stiffness strength of the whole part without adding extra thermal mass. This part is fabricated as a single piece with no support, achieving significantly improved size accuracy and surface quality. Size: 365×365×320mm. Wall thickness: 0.8mm. Build time: 126 hours (Dual-laser). Build surface roughness: 3um in vertical, 10um in 45°angel direction. Post-processing: sandblasting only.

TECHNICAL DATA

FS421M

External Dimensions (L×W×H)	2700×1290×2290 mm
Build Cylinder Size¹ (L×W×H)	425×425×420 mm (not including build plate thickness)
Net Weight	Approx. 3450kg (Single-laser) / 3500kg (Dual-laser)
Layer Thickness	0.02 - 0.1mm
Scanning Speed	Max. 15.2 m/s
Laser Type	Dual fiber laser, 2×500W or Single fiber laser, 1×500W
Scanner	High-precision three-axis digital galvo system
Laser Spot Size	Approx. 70μm contour, 70-200μm fill
Inert Gas Protection	Argon/Nitrogen
Average Inert Gas Consumption in Process	<3 L / min
Operating System	64 bit Windows10
Comprehensive Software	BuildStar, MakeStar®
Key Software Features	Open machine key parameters, real-time build parameter modification, three-dimensional visualization, diagnostic functions
Data File Format	STL
Power Supply	EUR/China: 380-400V, 50/60Hz, three-phase US: transformer sold with machine
Operating Ambient Temperature	22-28°C
Materials²	FS 316L, FS GH3536, FS GH3230*, FS IN718, FS IN625, FS AlSi10Mg, FS AlMgScZr, FS TA15, FS Ti6Al4V, FS CuSn10, more materials to come

¹ The functional build volume depends on the parts/materials.

² The materials marked with * are in the build process development.

FS301M

> PRODUCTIVITY + QUALITY

With an expanded build cylinder of 305×305×400mm, FS301M is well suited for larger-sized application in a single build. Dual-laser scanning strategy enhances the build efficiency by precisely control dual-laser with full coverage of the build area. Features such as 3-axis digital galvo system, build process control, real-time monitoring ensure the optimal build quality.

> ENHANCED USER OPERATION

With an integrated powder-loading dock, FS301M offers fully sealed powder handling in an inert atmosphere for streamlined workflow and improved environmental safety. A shared material container is used for loading, unloading and sieving, offering convenient powder handling and transportation between the stations.

> COMPACT MACHINE FOOTPRINT

FS301M features a compact footprint of 3.64 sqm with an integrated long-lasting filtration system of working time up to 1500h. With operation access from only the front and the rear, FS301M achieves the most compact installation among similar sized PBF systems, enables high density layout with minimal side distance for maximum throughput per floor area at economical cost.



AUTONOMOUS UNDERWATER VEHICLE (AUV) CHILLER

MATERIAL: FS AISi10Mg

SYSTEM: FS301M

The AUV chiller is the central main component of the Autonomous Underwater Vehicle, which helps the scientists and researchers to explore the unknown underwater world. It is reliable, sturdy and efficient. With Farsoon's optimized design for additive manufacturing, a large number of chassis and cooling parts are optimized and integrated into a single "central body", which effectively realizes the structural load and improves the cooling performance. With Farsoon's metal laser sintering technology, it improves the durability of the AUV, shortens the production cycle, reduces the structural weight, and extends the underwater working time.

TECHNICAL DATA

FS301M

External Dimensions (L×W×H)	2350×1550×2200 mm
Installation Footprint (L×W×H)	3500×3000×2800 mm
Build Cylinder Size¹ (L×W×H)	305×305×400 mm (not including build plate thickness)
Net Weight	Approx. 2800 kg
Layer Thickness	0.02 - 0.1mm
Scanning Speed	Max. 15.2 m/s
Laser Type	Dual fiber laser, 2×500W (dual-laser with full coverage of build area by each laser) or Single fiber laser, 1×500W
Scanner	High-precision three-axis digital galvo system
Laser Spot Size	Approx. 75μm contour, 75-200μm fill
Inert Gas Protection	Argon/Nitrogen
Average Inert Gas Consumption in Process	3 - 5 L / min
Operating System	64 bit Windows10
Comprehensive Software	BuildStar, MakeStar®
Key Software Features	Open machine key parameters, real-time build parameter modification, three-dimensional visualization, diagnostic functions
PLC	Siemens
Data File Format	STL
Power Supply	EUR/China: 380-400V, 50/60Hz, three-phase US: transformer sold with machine
Operating Ambient Temperature	22-28°C
Materials²	FS 316L, FS 17-4PH, FS 420, FS GH3536, FS GH3230*, FS IN718, FS AISi10Mg, FS TA15, FS Ti6Al4V, more materials to come

Farsoon reserves the right to change the technical data without notice. Farsoon®, Buildstar, Makestar® are registered trademarks of Farsoon Technologies. Last Change: 2021-03-30

¹ The functional build volume depends on the parts/materials.

² The materials marked with * are in the build process development.

FS273M

> SIMPLIFIED PRODUCTION

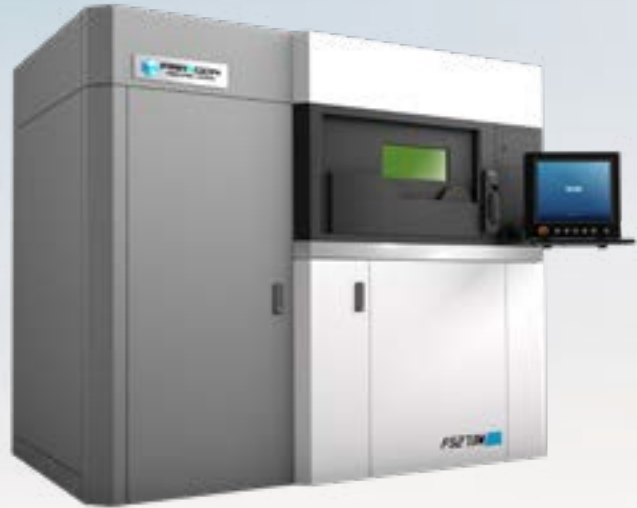
With an industrial-sized 275×275×355mm build envelope and an expanded powder feeding cylinder size, the FS273M offers streamlined metal production of larger volume parts with a wide range of industrial metal materials.

> COST-PERFORMANCE

The FS273M is a high value proposition industrial production platform. Advanced f-theta optics system, robust control and truly open parameters enable the user unparalleled freedom of processing capability. It can achieve highly detailed, functional parts while maintaining the cost-competitive advantage. Compact machine design enables denser, flexible factory layout for maximum throughput yield per floor area at an economical additive production cost.

> OPERATION EASE + SERVICEABILITY

The FS273M features an integrated, long-lasting filtration system allows for extended operation time for longer builds and reducing the cost of filter changes. Features such as preheated base-plate, robust recoating operations, removable overflow containers, and a powder supply sufficient for a full build ensure the ease of operation and good serviceability.



CONFORMAL COOLING MOLD

MATERIAL: FS 18Ni300

SYSTEM: FS273M

The conformal cooling mold is produced in a single piece by Farsoon's cost-performance FS273M with Oerlikon's metal powder material. Using traditional production methods, the injection molding inserts has a high scrap rate of up to 20%, which is hard to ensure effective and even cooling, resulting in many small bubbles in the product surface. While using Farsoon's metal laser sintering technology, it can optimize and produce the conformal cooling channels of the inserts, which reduces the cooling time, improves cooling efficiency and reduces the scrap rate and cost.

TECHNICAL DATA

FS273M

External Dimensions (L×W×H)	2250×1425×2000 mm
Build Cylinder Size¹ (L×W×H)	275×275×355 mm (not including build plate thickness)
Net Weight	Approx. 2033 kg
Layer Thickness	0.02 - 0.1mm
Scanning Speed²	Max. 10.0 m/s
Laser Type	Dual fiber lasers 2×500W, or Single fiber laser 1×500W
Scanner	High-precision digital galvo system
Laser Spot Size	Approx. 90 μm
Inert Gas Protection	Argon/Nitrogen
Average Inert Gas Consumption in Process	3-5 L / min
Operating System	64 bit Windows10
Comprehensive Software	BuildStar, MakeStar®
Key Software Features	Open machine key parameters, real-time build parameter modification, three-dimensional visualization, diagnostic functions
Data File Format	STL
Power Supply	EUR/China: 380-400V, 50/60Hz, three-phase US: transformer sold with machine
Operating Ambient Temperature	22-28°C
Materials³	FS 316L, FS 18Ni300, FS GH3536, FS AlSi10Mg, FS Ti6Al4V, CX, FS AlMgScZr*, FS TA15*, FS AlSi7Mg*, FS 420*, FS 718*, H13*, HX*, Pure Copper*, W*, Ta*, more materials to come

¹ The functional build volume depends on the parts/materials.

² For different industries and customer needs, this data may vary.

³ The materials marked with * are in the build process development.

FS121M

> FLEXIBLE SOLUTION

The FS121M is an incredibly flexible system enables the user choose between multiple spot sizes and recoating blades. Combined with a small footprint and reduced needs of accessory equipments, the FS121M can fully meet the customer workspace, material development and application requirements.

> PRICE + PERFORMANCE

Featuring with a 200W fiber laser and fully digital scanning system, along with fine spot size, the FS121M allows for the production of detailed and complex parts. Farsoon is dedicated to high quality additive production and incorporates the latest safety system with inert gas supply and protective filter systems at a price that is accessible for any business.

> OPEN PLATFORM

The FS121M like all Farsoon systems is fully open, which means Farsoon systems are truly open industrial manufacturing systems offering open parameters, materials and applications, allowing for unprecedented freedom and flexibility when it comes to MLS production.



DENTAL CROWNS

MATERIAL: FS CoCrMoW

SYSTEM: FS121M

The dental crowns are produced by Farsoon's accessible small frame metal platform FS121M, which is able to produce up to 160 pieces of dental crowns in only 3 hours. Using Farsoon's metal laser sintering technology, it can offer optimal manufacturing solutions for dental industry with high quality parts, improved productivity, simplified processing and reduced cost per part compared to the traditional dental crown manufacturing methods.

Farsoon reserves the right to change the technical data without notice. Farsoon®, Buildstar, Makestar® are registered trademarks of Farsoon Technologies. Last Change: 2021-03-30

TECHNICAL DATA

FS121M

External Dimensions (LxWxH)	780×1000×1700 mm
Build Cylinder Size¹ (LxWxH)	120×120×100 mm (not including build plate thickness)
Net Weight	Approx.700 kg
Layer Thickness	0.02-0.08mm
Scanning Speed	Max. 15.2 m/s
Laser Type	Fiber laser, 1×200W
Scanner	High-precision three-axis digital galvo system
Laser Spot Size	Approx. 40μm contour, 40-100μm fill
Inert Gas Protection	Argon/Nitrogen
Average Inert Gas Consumption in Process	<3 L / min
Operating System	64 bit Windows10
Comprehensive Software	BuildStar, MakeStar®
Key Software Features	Open machine key parameters, real-time build parameter modification, three-dimensional visualization, diagnostic functions
Data File Format	STL
Power Supply	EUR/China: 380-400V, 50/60Hz, three-phase US: transformer sold with machine
Operating Ambient Temperature	22-28°C
Materials	FS 316L, FS 17-4PH, FS 18Ni300, FS GH3536, FS Cu, FS CuSn10, FS CoCrMoW, FS CoCrMo, more materials to come

¹ The functional build volume depends on the parts/materials.