stratasys | alphacam
SOLUTIONS FOR A 3D WORLD®

BROCHURE
SAF

Stratasys® H Series™

Consistent, production-grade parts at the scale your business needs.

Meet demanding production requirements with the Stratasys H350™ and H550™ powder bed fusion 3D printers, powered by Selective Absorption Fusion™ technology.





Scale Production with Confidence

Grow your part production business with the H Series, powered by SAF™ technology. Produce accurate, functional parts with consistent output, predictable economics and control over your production workflow.

Choose the H350 for proven industrial production in a compact footprint. Choose the H550 when you need to produce larger parts, increase output and reduce cost per part in suitable production applications. Both systems give you control over your production data, print settings and materials workflow.

Two Systems. One Production Platform.



H350

An accessible entry into industrial printhead-based powder bed fusion. With full builds in as little as 12 hours, a 19.2-liter build volume and competitively priced consumables, the H350 helps manufacturers produce repeatable end-use parts at a predictable cost.



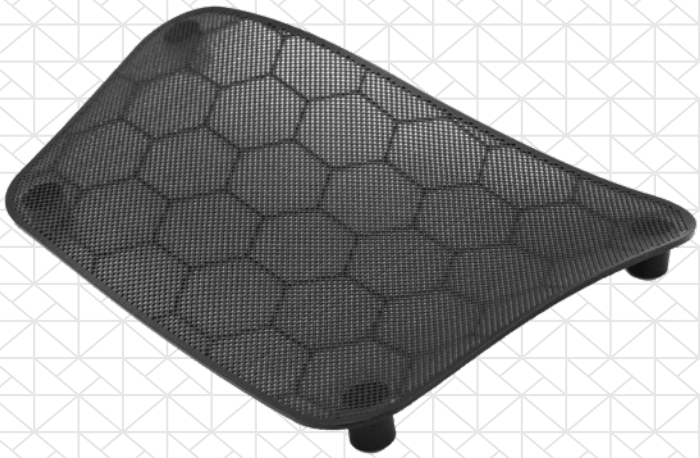
H550

Bring larger applications to printhead-based powder bed fusion. Its 34.2-liter build volume and 450 mm longest axis expand the scale of parts you can produce, while higher output and competitively priced consumables support a competitive total cost of ownership – all in the same footprint.

Stay Competitive with Best-in-Class Consistency.

The Stratasys H350 and H550 bring SAF™ technology to production at different scales. Both systems deliver accurate, functional parts with consistent quality print after print, while giving you control over your materials, workflow and production data. Choose the build capacity that fits your applications without changing the production approach you rely on.





Parts with No Hidden Costs.

With few consumables, easy upkeep and long-lasting industrial-grade print heads, the H Series printers have been designed to last. Maintenance and labor requirements are low, so you can maximize production uptime while minimizing running costs. Fewer restrictions in part orientation mean high nesting density, which maximizes the number of parts per build. If you choose to, you can reuse all of your unfused powder — keeping material costs down and significantly reducing cost per part.

A single fusing fluid also means a simple and predictable cost per part. Additionally, print heads are non-consumables and included as part of your service contract.

* Compared to other powder bed fusion technologies using print heads.

Achieve Superior Part Quality and Enhanced Aesthetics with SAF HighDef Printing

Stratasys H Series printers, now equipped with HighDef Printing, brings 3D printed objects to life with enhanced aesthetics and unmatched detail. This innovative feature ensures high-volume parts with superior accuracy and high repeatability. With advanced thermal management and precise fluid deposition, SAF produces parts with consistent quality across fine feature details, flat areas, and large parts. The industry-leading narrowest gap clearance achieved by SAF HighDef ensures precise and tight fits in mechanisms and assemblies, making it ideal for a wide range of applications.

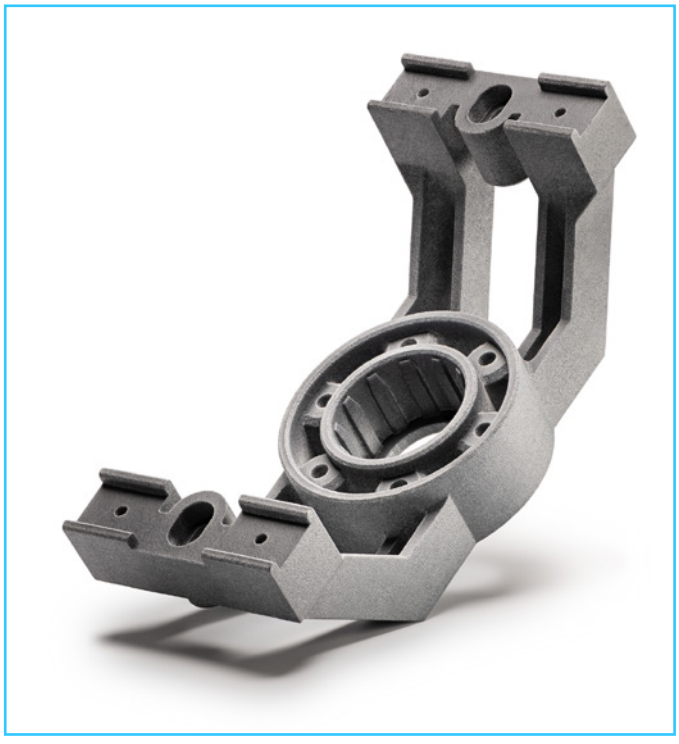


Maximize Process Flexibility and Boost Your Productivity

The H Series printers allow users to choose their build preparation software platforms to suit their business needs. With no mandatory cloud connection, no forced firmware updates and the ability to reuse previous print settings, you can have quality control of your production.

The H Series printers workflow also gives you complete control over your powder quality management and build data so that you can easily certify your production. Its stable process is supported by industrial-grade components and a consistent thermal process. Plus, print heads are not consumable items, so there's no need for frequent recertification — meaning the print process and performance remain steady.

The flexibility to tailor your own workflow empowers you to meet your customers' specifications for different application requirements. Save settings and reuse for repeat builds at any time. Reproduce precise, geometric measurements and mechanical properties to achieve part consistency. Monitor and adjust settings with few consumables, easy upkeep and long-lasting industrial-grade print heads, to produce the part qualities that meet the standards of each application.



H Series Workflow

H Series 3D Printer

PowderEase T1 and T2

1



Nest

Nest parts to create a build job.

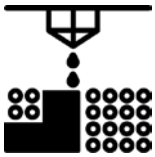
2



Send

Send print jobs to the printer.

3



Print

SAF technology provides a uniform thermal experience for improved part consistency.

A. Big Wave powder management system precisely and evenly deposits a new layer.

B. The layer is immediately heated to maintain thermal homogeneity and ensure part quality.

C. Industrial piezoelectric print heads jet high-energy HAF™ high absorption fluid on the powder.

D. Infrared energy fuses the selected areas and underlying particles.

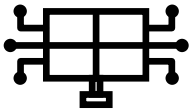
4



Monitor

Monitor progress of all printers in your fleet with GrabCAD Print Server.

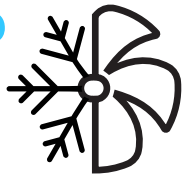
5



Data Retrieval

Retrieve data from a build job for quality control and certify production.

6

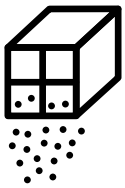


Build Removal

Remove a completed build to cool down.

Additional Part-Finishing steps:

7



Breakout and Powder Retrieval

Remove parts from a build and retrieve unfused powder

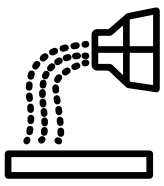
8



Dosing

Retrieve unfused powder and mix with virgin material for printer refill.

9



Powder Refill

Put dosed powder in the machine (e.g., 70:30 used-to-virgin ratio).

10



Depowdering/ Bead Blasting

Use your choice of equipment to remove any excess powder from the part surface to create a new raw part.

Automate Powder Handling.
Scale Production.

Pair an H Series printer with PowderEase™ to create the recommended SAF production workflow. PowderEase automates powder breakout, retrieval, sieving and dosing, reducing manual handling between builds and helping your team manage powder consistently as production grows.

Less hands-on work
Automated breakout and powder retrieval free operators from time-consuming manual steps.

More control over powder
Sieve recovered powder and dose the required mix of used and virgin material for the next build.

A workflow built to scale
Support multiple printers with one powder handling station, making it easier to expand production without multiplying manual tasks.

Choose the PowderEase system for your fleet



PowderEase T1

Automated powder handling for H350 builds.



PowderEase T2

The same automated workflow with capacity for the larger H550 build. T2 handles builds from both H350 and H550 printers when they use the same material.

Adaptable Workflow



Stratasys H350 & H550 Build Removal Box
Simple, transportable add what you need.



Trolley
Easy build box transport.



Stratasys PowderEase T1 & T2
Automatic Powder Handling for H350 Printer



Stratasys H350 & H550 Powder Container
Add what you need.

* The PowderEase T1 & T2 is an optional accessory. SAF workflow is opened for other material handling equipement.

Powered by
SAF technology

SAF technology is an industrial-grade additive manufacturing solution that delivers production-level throughput for end-use parts. This is achieved by selectively jetting HAF fluid with industrial piezoelectric print heads onto a layer of powder-form material in just one, full-width pass.

Thanks to its unique in-line, unidirectional architecture, SAF technology prints, fuses, recoats (with Big Wave powder system) and powder heats in the same direction. The time-controlled manner of these processes ensure a uniform thermal experience and part consistency across the whole bed.

SAF technology jets single or multiple drops of highly loaded fluids to produce fine detail or large fused areas without compromising throughput. It also has the ability to jet unique, high-specialty, functional fluids to process a broad range of powders and manufacture parts with selectively defined point-to-point properties.

Due to the savings of implementing industrial-grade technology, SAF-based products will deliver a competitive cost per part, production-level throughput, part quality and consistency, and a high production yield.

SAF technology jets single or multiple drops of highly loaded fluids to produce fine detail or large fused areas without compromising throughput.



Specifications

	H350™	H550™
Printer Performance		
Effective Build Size (xyz)	315 x 208 x 293 mm (12.40 x 8.18 x 11.53 in)	365 x 208 x 450 mm (14.30 x 8.18 x 17.71 in)
Effective Build Volume	19.2 l (5.07 gallon)	34.2 l (9.03 gallon)
Layer Thickness	100 µ (0.004 in)	100 µ (0.004 in)
Time to a Full Build (print time)	11.62 hrs	SAF PA12 - 16.5 hrs
Power		
Requirements	400VAC, 3P+N+PE, 50-60 Hz, 16A	400VAC, 3P+N, PE, 50-60 Hz, 16A
Consumption	3.25 kW, 5 kW (peak), 0.15 kW (idle)	3.25 kW, 5 kW peak, 0.15 kW idle
Operating conditions		
Temperature	20-25 ˚C (68-77 ˚F)	20-25 °C (68-77 °F)
Humidity	40-55% RH	40-55% RH
Extraction Rate	300 m^3/h (177 CFM) with adjustable damper	300 m^3/h (177 CFM) with adjustable damper
Dimensions (W x D x H)		
Printer	1,900 x 940 x 1,730 mm (74.8 x 37.0 x 68.1 in)	1,900 x 940 x 1,730 mm (74.8 x 37.0 x 68.1 in)
Printer Crate	2,156 x 1,196 x 2,100 mm (84.9 x 47.1 x 82.7 in)	2,156 x 1,196 x 2,100 mm (84.9 x 47.1 x 82.7 in)

	H350™	H550™
Weight		
Printer	825 kg (1,819 lb)	825 kg (1,819 lb)
Crated Printer	950 kg (2,094 lb)	950 kg (2,094 lb)
Connectivity		
Network Requirements	RJ45 Ethernet connection, 35 MBit network with DHCP server. Internet access recommended.	RJ45 Ethernet connection, 35 MBit network with DHCP server. Internet access recommended.
Software		
Supported Software Workflow	GrabCAD® Print, GrabCAD® Print Pro™, GrabCAD® Print Server, GrabCAD Streamline Pro, Materialise Magics, Siemens NX and PTC Creo	GrabCAD® Print Pro™, GrabCAD® Print Server, GrabCAD® Streamline Pro, Materialise Magics, Siemens NX and PTC Creo Certificates Safety
Certificates		
Safety	EN ISO 12100:2010	EN ISO 12100:2010
Electromagnetic	DIRECTIVE 2014/30/EU	Electromagnetic DIRECTIVE 2014/30/EU
Environmental	REACH, RoHS, WEEE, Modern Slavery Act, CoA, CoC (and from 2021, Conflict Minerals regulation), TSCA	REACH, RoHS, WEEE, Modern Slavery Act, CoA, CoC, Conflict Minerals regulation, TSCA
Materials		
Powders	High Yield PA11, SAF™ PA12, SAF™ PP, SAF™ ReLife™ PA12, SAF™ PA12 - Powered by Evonik	Powder SAF™ PA12 *More materials coming soon*
Fluid	Stratasys HAF™ High Absorption Fluid	Fluid Stratasys HAF™ High Absorption Fluid
Warranty and Service		
Warranty	1 year limited warranty. Warranty includes printheads and printer consumables*	1 year limited warranty. Warranty includes printheads and printer consumables
Service	Service plans include printheads and printer consumables*	Service plans include printheads and printer consumables*

* H350 and H550 printers consumables refers to H350 and H550 parts that wear out relatively frequently and need replacement by the customer. For clarity, the H350 and H550 printer consumables do not include H350 and H550 materials, HAF or powders, and do not include other materials required for the maintenance of the H350 and H550 such as cleaning fluids, gloves and swabs.

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