



stratasys



alphacam
SOLUTIONS FOR A 3D WORLD®

BROCHURE
SLA

Neo[®]800+ Industrial SLA Printer

The new benchmark for high-speed,
large-format stereolithography.

Build accurate, industrial-grade parts up to
50%* faster than before.





Where Precision Meets Speed

Neo[®]800+

The Neo800+ 3D printer sets a new benchmark for **large-format stereolithography (SLA)**. Built on proven technology and engineered with new hardware, updated software, and a cutting-edge scanning system, it delivers faster throughput, unmatched reliability and precision that meets the highest standards for stereolithography.

Building on years of SLA 3D printing expertise, Neo engineers at Stratasys have developed a breakthrough technology for reliable part production: **LayerControl⁺**. Also at the heart of the Neo[®]800+ 3D printer is **ScanControl⁺**, an advanced technology which boosts print productivity and sharpness by fine-tuning laser power, movement, and focus.

The capabilities that drive speed, part quality, and precision in the Neo[®]800+ 3D printer include:



LayerControl⁺

LayerControl⁺™ is intelligent technology implemented through Titanium™ software that automatically adjusts layer delay time based on build data for improved thermal regulation. Thermal variations during the build may result in costly build failures and surface defects if not controlled effectively. LayerControl+ intelligently manages thermal changes, allowing the Neo800+ SLA printer to maximize print speed, achieving higher part quality and print reliability.

ScanControl⁺

By combining the redesigned scanning system and ScanControl+, the Neo[®]800+ 3D printer achieves average scan speeds **up to 50%* faster** than its predecessor.

Fast HD Mode for Finer Details

High Detail (HD) mode on the Neo[®]800+ 3D printer offers finer detail reproduction at **61.6%*** faster speeds than its predecessor while adding **only 6.7%*** to print time compared to Standard Detail (SD) mode. Automated adjustments to border beam size ensure consistent energy delivery and optimal productivity.

Benchmark	Neo [®] 800 3D printer				Neo [®] 800+ 3D printer			
	Build Time		HD Time Penalty		Build Time		HD Time Penalty	
	SD	HD	Hours	%	SD	HD	Hours	%
Wind Tunnel	34.83	55.14	20.31	58.3%	24.26	25.73	1.47	6.1%
Service Bureau	42.22	64.22	22.00	52.1%	28.40	29.73	1.33	4.7%
Mold Tool	40.27	70.18	29.91	74.3%	23.99	26.22	2.23	9.3%
Average	61.6%				6.7%			

Comparing print speeds in HD and SD modes for three different benchmarks across both the Neo[®]800 and the Neo[®]800+ 3D printers.



Redesigned Scanning System

Powered by a high-performance **4W laser** and an enhanced optics system, the Neo[®]800+ 3D printer offers a broader beam size range, enabling both faster scanning speed and exceptional fine detail reproduction. It supports high-energy materials, boosting productivity, and the Neo[®]800+ 3D printer ensures reliable, high-precision part production.



Build time study comparing the Neo800 and Neo800+.



Enhanced Border Control

The Neo series is renowned for its exceptional surface quality. The Neo[®]800+ 3D printer goes further, achieving a new standard. Superior detail reproduction, sharper corners and smoother surfaces enabled by an enhanced beam size range and optimized energy delivery.



ScanControl+ Ready Materials

To match faster build speeds, the Neo[®]800+ 3D printer uses **certified ScanControl+ ready materials** from Somos[®], rigorously tested to ensure exceptional part accuracy, first-time print success and reliable performance.



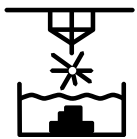
Reliability

You Can Count On

Industrial manufacturing demands repeatable performance. The Neo®800+ 3D printer meets production floor needs with advanced design features to enhance reliability while minimizing downtime.

Features like **Vacuum System Protection**, **Z-Stage Collision Detection**, and **real-time environmental monitoring** ensure consistent results and streamlined maintenance, keeping your production on track with confidence.

These are the capabilities of the Neo®800+ 3D printer that help achieve its renowned reliability:



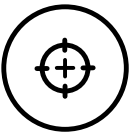
Laser Power

The **4W laser** on the Neo®800+ 3D printer enables faster scanning and provides ample overhead. The latest laser technology delivers cutting-edge performance, ensuring reliability and future-proofing for new high-energy materials.



Vacuum System Protection

Proactive **built-in intervention** prevents resin from entering the vacuum system, continuously tracking conditions for peace-of-mind printing.



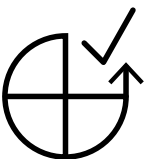
Optimized Optics Performance

The design enhancements in the Neo®800+ 3D printer (inspired by satellite engineering) **maintain performance** and **minimize optical degradation** over time, ensuring consistent results with reduced maintenance.



Air Temperature & Humidity Logging

Real-time **temperature** and **humidity monitoring** within the build chamber ensures optimal resin curing and print quality, providing alerts when conditions deviate from optimal ranges.



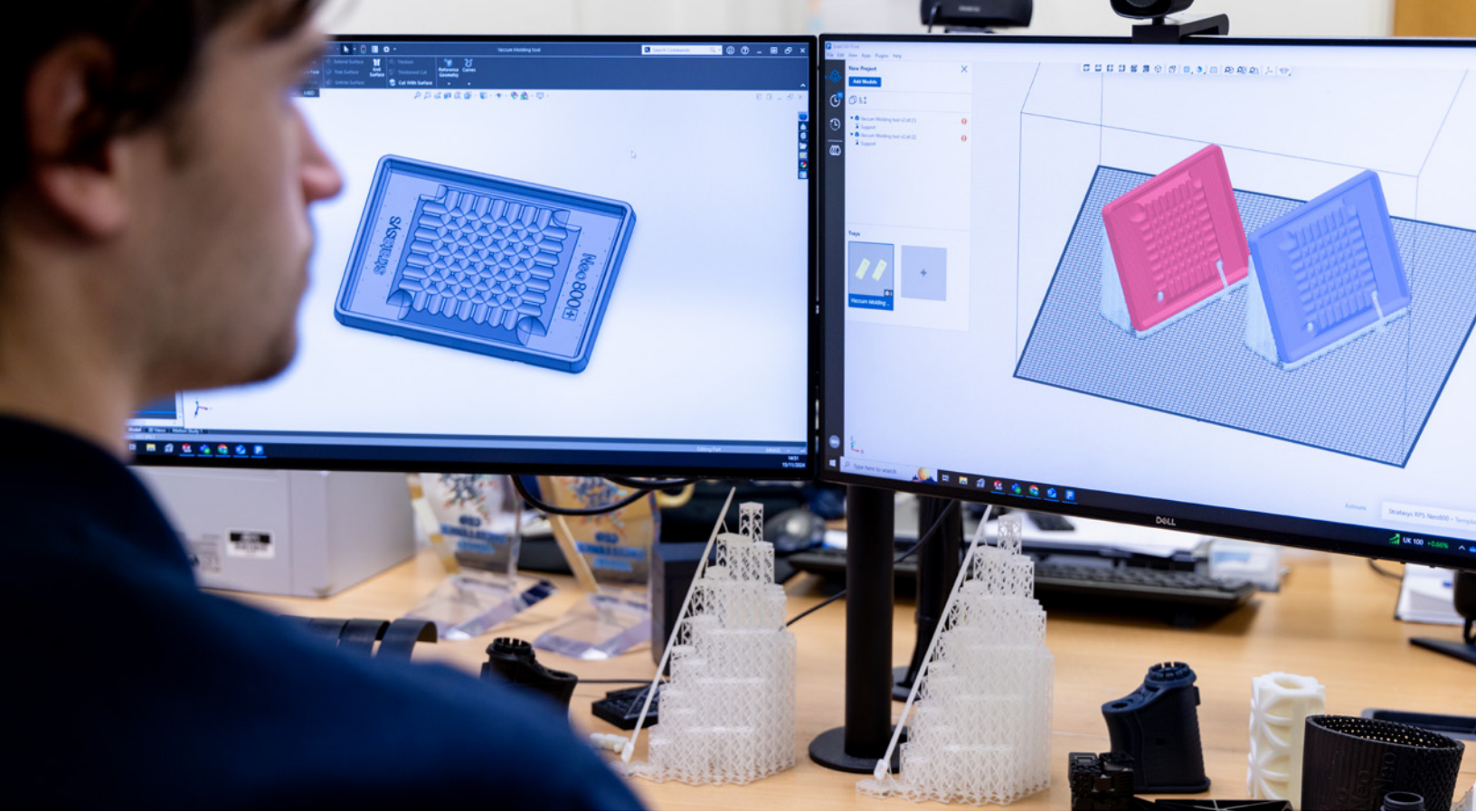
Z-Stage Drive & Collision Detection

The **upgraded Z-stage drive system** reduces potential points of failure with fewer components, enhancing the overall durability. The **collision detection system** detects obstructions or excessive force, safeguarding the system.



Titanium Software

Our Titanium software can be integrated into an **Industry 4.0 system**, logging build history, machine use, and resin health. Powerful diagnostics means engineers can prepare for site visits for efficient service and minimal downtime.



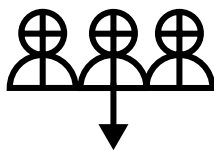
Increase Your Throughput, Lower Your Cost-Per-Part

The Neo®800+ 3D printer reduces production time while delivering superior-quality parts with enhanced fidelity.



Maximize Your Investment

The Neo®800+ 3D printer delivers superior throughput and part quality, outperforming other stereolithography systems. Total cost of ownership per part is reduced by up to **15%**, **accelerating return on investment by up to one year****. It offers **greater value** than multi-laser systems that can have increased maintenance costs.



Reduce Labor Costs

The superior print quality of the Neo®800+ 3D printer significantly reduces or **eliminates** post-processing labor, lowering your cost per part and freeing up valuable time and resources.



39% More Parts**

With the optimized scanning system, ScanControl+, the Neo®800+ 3D printer increases average part yield by **39%** and tooling mold yield by an impressive **44%**, offering faster output and greater savings.**

* Compared to the Neo800 3D printer

** Results may vary based on the material, part geometry, print parameters, the pre- and post-processing methods. The internal study was conducted by using a variety of sample builds simulating 70% utilization rate over 1 year span, comparing to other SLA printers.

Neo[®]800+ 3D printer

The new benchmark for high-speed, large-format SLA

Designed by Engineers, for Engineers.

The Neo[®]800+ 3D printer combines cutting-edge software and advanced technology to deliver up to **50% faster performance** than its predecessor. With enhanced part fidelity and reliability, it minimizes downtime and service needs, setting a new standard for large-format SLA printing with the **lowest total cost of ownership**.

System Specifications

Laser & Scanning System	Laser	4 Watt
		355 nm, solid-state frequency tripled Nd:YVO ⁴
	Beam Focus	Dynamic & Variable
	Beam Size	120 to 750µm
	Scanning Speed	Up to 790 in./s (20 m/s)
Layer Resolution		50 to 200 µm*
Minimum Feature Size		0.007 in. (0.17 mm) in X & Y† / 0.016 in. (0.4mm) in Z†
Build Modes		High Detail & Standard Detail (HD & SD)
Accuracy		Dimension <3.94 in. ±0.004 in.; Dimension >3.94 in. ±0.15%† Dimension <100 mm ±0.1 mm; Dimension >100 mm ±0.15%†
Material Compatibility		Open resin system – compatible with commercially available 355 nm stereolithography resins
Capacities	Build (XYZ)	Half: 31.50 x 31.50 x 11.81 in. (800 x 800 x 300 mm) Full: 31.50 x 31.50 x 23.62 in. (800 x 800 x 600 mm)
	Vat Fill	Half: 83 US gal (780 lb‡) [316 ltr (354 kg‡)] Full: 147 US gal (1378 lb‡) [558 ltr (625 kg‡)]
Software	Operating System	Windows 10 IoT Enterprise LTSC 2021
	Input File Format	SLC
	Control Software	Titanium
	Build Prep Software	GrabCAD or Materialise Magics
	Remote Editor	Titanium Assistant (Optional)
Connectivity	Ethernet	Fully compliant with IEE 802.3, IEEE 802.3u, IEEE 802.3ab
	USB Port	USB 3.1



System Specifications

Features & Build Options		Build validation / Build time estimator / Material usage estimator / Scheduled start / Open build parameters enabling any material to be processed / On-the-fly parameter adjustment and part deletion / Upper surface build quality optimization / Bubble remover with automated option
Advanced Services & Reporting Tools		Industry 4.0 compliant / Full part traceability / Logging of machine utilization; build history; parameters; material usage; formatted data export / System and build status email notification § / Onboard camera / Resin viscosity tracking / User level access control / Scheduled lighting
Support		1-click "snapshot" job diagnostic pack for remote support / Remote diagnostics §
Electrical Requirements	208 ~ 240 V, 50/60 Hz	900 W Typical operation, 1,900 W Max
Environmental Requirements		Temperature range: 68–74 °F (20–23 °C), max rate change ±2 °F/hr (1 °C/hr). Relative humidity 20–50% non-condensing.
UPS		1 – 2 hrs of system up-time with intelligent UPS control***
Dimensions (WxDxH)	Printer (s)	53.2 x 64.2 x 90.6 in. (1,350 x 1630 x 2,300 mm)
	Printer Crated	67.3 x 73.2 x 100.8 in. (1,710 x 1,860 x 2,560 mm)
	Vat (uncrated)	46.9 x 35.9 x 34.3 in. (1,190 x 910 x 870 mm)
	Vat Crated	55.2 x 41.4 x 43 in. (1,400 x 1,050 x 1,090 mm)
Weight	Printer	1,764 lb (800 Kg)
	Vat	529 lb (240 Kg)
Crated Weight:	Printer	2646 lb (1200 Kg)
Warranty	System	12 months on-site service and support, as per Stratasys conditions of sale
Accessories	Vat	960 lb (435 Kg)
	UV800	1,058 lb (480 Kg)
	Unload Cart	463 lb (210 Kg)
Regulatory Conformity		CE UK FC KC A

* 100µm layer parameters are supplied for Stratasys certified materials. Parameters for alternative thicknesses may be available. Layer thickness range is material dependent. Contact Stratasys for more details.

† Accuracy and minimum feature size will vary depending on material, parameters, part geometry and size, pre- and post-processing methods and environment.

‡ Based on typical material density, 2.47 lb/0.3 gal @ 78.8 °F (1.12kg/ltr @ 26 °C).

§ Internet connection is required for full or partial functionality.

*** When connected to a Stratasys Certified UPS, not sold with the Neo800 3D printer, please contact Stratasys for further details.

Specification can be subject to change without prior notice.

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