

Neo[®]800



Build large parts with superior surface quality accuracy and detail.

The world-class industrial large-format stereolithography system.

Build large prototypes, rapid tooling and master patterns with the state-of-the-art Neo800.

Designed and manufactured by RPS engineers, the Neo800 builds high-quality parts with superior surface quality, accuracy and detail.



Why choose the Neo[®]800?

Exceptional part sidewall quality

Outstanding scanning resolution reduces finishing time by up to 50%.

Open resin system

Compatible with all 355nm SL resins, allowing freedom of material selection.

Connected services

Stay connected and keep updated with the built-in camera, emailed progress reports and status updates.

Customer-driven development

Customer suggestions and feedback are encouraged, driving user-enhanced software updates.

Large build volume

Measuring 800 x 800 x 600 mm, build larger parts without section and bonding.

Intuitive Titanium[™] software

Easy-to-use software optimises build time and part quality with build history, parameter detail, hardware usage and part traceability data reporting.

Accessible support

Remote diagnostics or convenient on-site support from our exceptional service team.

Quality assurance

The Neo800 is carefully designed and engineered throughout, using premium components, parts and finishes.

Titanium™ Software

All Neo® systems operate with industry-leading Titanium™ software.

Titanium has been carefully designed with both the user and department manager in mind. Many options are user definable as defaults, enabling simple click-and-print operation.

Automated communications assist department efficiency and field service response. Part traceability and hardware utilisation is facilitated by excellent reporting capability.

Build Options & Features

- Build validation
- Build time estimator
- Material usage estimator
- On-the-fly parameter adjustment and part deletion
- Upper surface build quality optimisation
- Bubble remover with automated option
- Scheduled start

Build Status Notification Emails

Build progress emails can be sent to users at any point during a build. This assists department efficiency optimising machine utilisation. Titanium can also be configured so users can receive emails for: Build Start, Pause, Completion or Alert Progress.

On Board Camera

Each Neo system is installed with a built-in camera, offering users the potential to keep track of builds remotely, at any stage.

Resin Viscosity

In busy departments it's often easy to forget to take regular viscosity readings. Viscosity monitoring is key to material longevity. Titanium prompts the user for readings at pre-determined intervals, logging the results. This information could be relayed to RPS for monitoring, enabling preventative action when necessary, helping to protect vat fill material.

Industry 4.0

The Neo stereolithography system range can be integrated into an Industry 4.0 system.

Integration is available through multiple mechanisms including a RESTful API and shared file access. The data provided includes progress details of the current build.

Neo uses industry standard formats (e.g. XML). The RESTful API supplies the data using JSON.

RPS is open to work with customers in developing the remote access interface and RESTful API to provide additional functionality.*

Reporting Tools

Titanium features a range of reporting tools and dashboards to help users capture build history, parameter detail, hardware usage and part traceability data. This data can assist operators and managers analyse utilisation of the Neo to help meet business objectives.

Part Traceability

In many industries part traceability is paramount. With Titanium software, parts are easily traced to a build with all parameters recorded.

Hardware Utilisation

A complete insight on hardware usage hours can be easily obtained to determine hardware productivity.

Report Export

Using Titanium, data is easily accessed with a click of a button and can be exported as a formatted Microsoft® Excel spreadsheet, via email or to a USB drive. Data can cover a range of timeframes and builds including:

- Build reports
- Monthly / Yearly / Custom period reports

Service & Support Reporting Tools

Neo systems have outstanding reliability. When support is needed, Titanium assists fast, efficient response from the RPS support team.

System Alerts

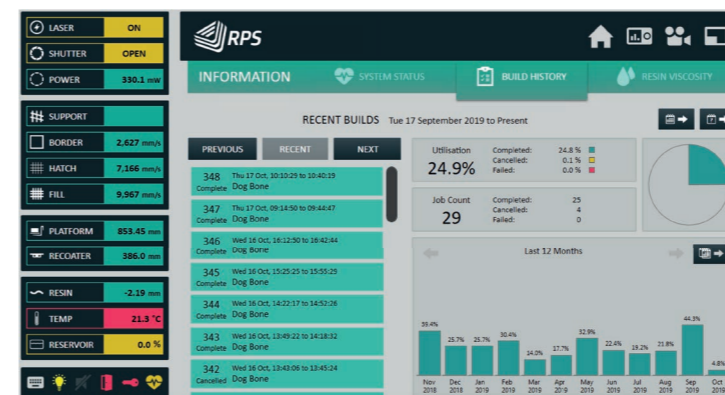
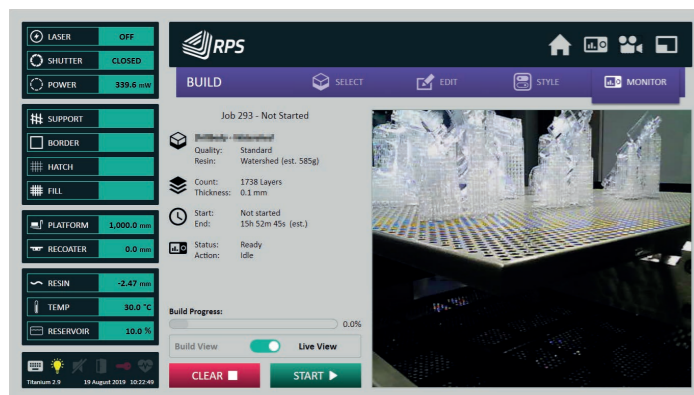
In the event the Neo has a problem mid-build, users will receive a system alert email.

Job Diagnostic Packs

To help identify an issue, users can easily export a Job Diagnostic Pack specific to an individual build via email or USB drive. This data can be used to assist with remote diagnosis and to be used to assist RPS service engineers when on site.

Laser Monitoring and Calibration

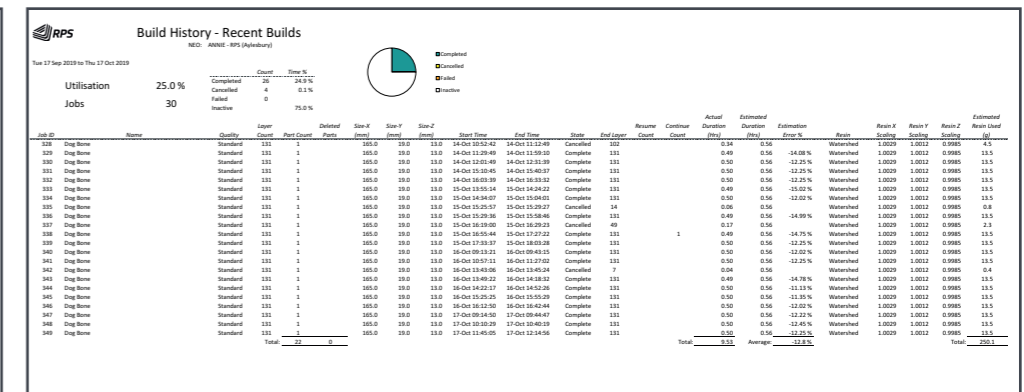
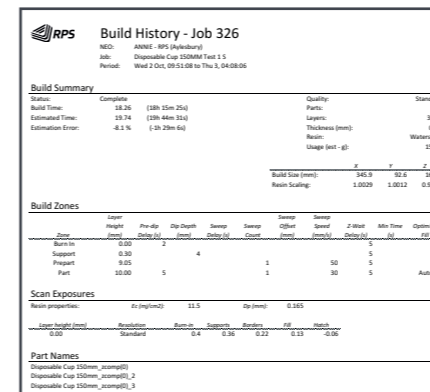
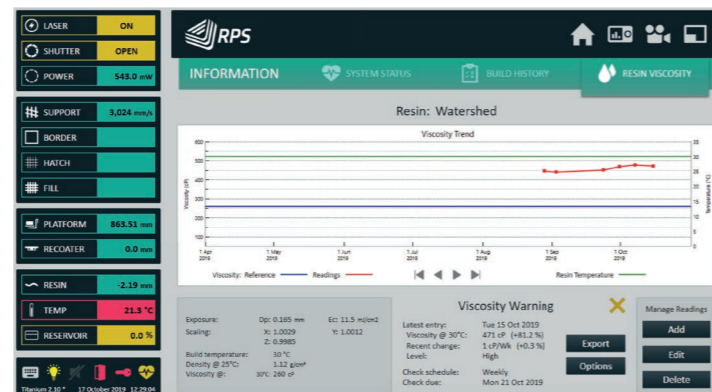
Titanium software constantly monitors the laser output and will alert users if recalibration is necessary. Recalibration of the laser can be performed by the users with a simple one-click operation.



Each NEO system is installed with a built in camera, offering users the potential to keep track of builds remotely, at any stage.

Intuitive Titanium software is developed for simplified daily operation or more functionality for detailed builds when required.

Viscosity monitoring is key to material longevity. Titanium prompts the user for readings at pre-determined intervals, logging the results.



Titanium features a range of reporting tools and dashboards to help users capture build history, parameter detail, hardware usage and part traceability data.

Laser & Scanning System	Laser	2 Watt		
		355 nm, solid-state frequency tripled Nd: YVO ₄		
	Beam Focus	Dynamic & Variable		
	Beam Size	150 to 600 μm		
	Scanning Speed	Up to 10 m/s		
Layer Resolution	50 to 200 μm*			
Minimum Feature Size	0.2 mm in X & Y [†] / 0.4mm in Z [†]			
Build Modes	HD & SD			
Accuracy	Dimension <100 mm ±0.1 mm. Dimension >100 mm ±0.15% [‡]			
Material Compatibility	Open resin system - compatible with 355 nm stereolithography resins			
Capacities		Short:	Half:	Full:
	Build (XYZ)	800 × 800 × 120 mm	800 × 800 × 300 mm	800 × 800 × 600 mm
	Vat Fill	173 ltr (194 kg [‡])	300 ltr (336 kg [‡])	555 ltr (630 kg [‡])
Software	Operating System	Windows 10 Pro		
	Input File Format	SLC		
	Control Software	Titanium™		
	Remote Editor	Titanium Assistant™ (Optional)		
Connectivity	Ethernet	Fully compliant with IEE 802.3, IEEE 802.3u, IEEE 802.3ab		
	WIFI	Fully compliant with IEEE 802.11 b/g/n		
	USB Port	USB 2.0		
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 & part deletion / Upper surface build quality optimisation / Bubble remover with automated option.			
Advanced Services & Reporting Tools	Industry 4.0 compliant / Full part traceability / Logging of machine utilisation; build history; parameters; material usage; formatted data export / System & build status email notification [§] / On-board 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, 1900 W Max		
UPS	Integrated UPS. 10 ~ 20 mins of system up-time with Intelligent Control			
Environmental Requirements	Temperature range: 20-23°C, max rate change ±1°C/hr. Relative humidity 20-50% non-condensing.			
Dimensions (WxDxH)	1350 × 1630 × 2300 mm			
Weight	Printer	800 kg		
	Vat (empty)	240 kg		
Warranty	System	12 months on-site service and support, as per RPS conditions of sale		
	Laser	Replacement <800 mW before 10,000 hours or 18 months (whichever is sooner)		
Accessories	Neo800 offload trolley / Neo UV800 post-cure & heated resin store / Neo Material Development Kit			
Regulatory Conformity	CE FC ICES-3			

* 100μm layer parameters are supplied for RPS certified materials. Parameters for alternative thicknesses may be available. Layer thickness range is material dependant. Contact RPS for more detail. [†]Accuracy & minimum feature size will vary depending on material, parameters, part geometry and size, pre & post-processing methods and environment. [‡]Based on typical material density 1.12kg/ltr @ 26°C. [§]Internet connection is required for full or partial functionality.