SLS 300
A Professional Selective
Laser Sintering System

Advanced SLS technology in a user-friendly format

Professional Selective Laser Sintering system

SLS Technology Simplified: No Staff, No Infrastructure, No Powder Hassles.

Ideal for offices, material research labs or workshops, the SLS 300 offers advanced SLS technology in an office-friendly, plug-and play format. This means that you can print SLS quality functional prototypes, tools and more without the need for specialized staff, investments in infrastructure and complex powder handling. Thanks to the cloud-based software, you can manage your print jobs from anywhere and anytime.

Solutions overview

WATER JET CABINET
Developed for finishing prints using water. Tap water is pumped into a pressurized jet sprayed from a nozzle attached to a pistol grip which removes powder from the print.

SLS 300
The SLS 300 uses Selective Laser Sintering technology for functional prototyping and low-volume production of end-use parts.

POWDER VACUUM
The powder vacuum is used to extract parts and collect excess powder from the build chamber after a finished print job in the SLS 300 3D printer.

ATMOSPHERE GENERATOR
A device that provides improved control of build chamber conditions in the printer for increased part density, surface finish, and mechanical performance.

The SLS 300 3D printing process

From 3D model to printed part in no time

1. UPLOAD FILES AND PREPARE BUILD

Upload your 3D files directly in Deep Space in the web browser. Choose the number of copies of each model and let Deep Space nest them. Preview the build to make sure you're satisfied.

2. START AND MONITOR YOUR PRINT

Press Print either on the touch screen of the SLS 300 or from Deep Space and monitor the print job remotely on your laptop or phone.

3. EXTRACT PARTS FROM CHAMBER

When the print job is finished, the build can be viewed on the touch screen of the SLS 300 to facilitate finding the parts you're looking for.

4. DEPOWDER WITH WATER

Parts printed from powder in an SLS system emerge from the process with a powdery or grainy surface. Depowdering with water effectively and quickly removes all residual powder, even from challenging cavities.

5. YOUR PARTS ARE READY TO USE

The prints will have great surface finish, ideal for a variety of applications. To achieve parts with different color combinations or special surface requirements, additional post-processing steps are required.

Part extraction and depowdering

Leading the way to cleaner SLS 3D printing

SLS technology presents challenges for safe powder handling and management. The conventional way of removing loose and partly solidified powder has been with compressed air and vacuuming which can present issues with containment and also place demands on resources.

The Powder Vacuum is a light and versatile unit used for collecting powder after print jobs and for cleaning the build chamber of the SLS 300. The remaining unsintered powder is recovered and stored in sealed powder bags after each print job and can then be used again for future print jobs.

A closed and contamination-free water-jet system

By using a closed system with recirculating water and a unique filtering system, the Water Jet Cabinet can provide a totally safe, easy to use and powder-free approach for efficiently cleaning parts produced with the SLS 300. By using pressurized water of up to 100 bars, extraction and cleaning of the 3D-printed components take seconds and the water binds the powder and prevents it from spreading. The water passes through a filter which is easily accessible in the chamber. By utilizing an innovative filtering process the water stays clean, the printed parts are powder-free and all the excess powder is gathered in an accessible powder filter inside the chamber.

Closed system
Closed and easy-to-use powder cleaning system which operates independently from drainage or water connections.

No dust spreading
By using water that is pressurized up to 100 bar, extracting and cleaning 3D-printed components takes seconds, and the water binds the powder to prevent it from spreading.

Prints ready immediately
Integrated compressed air dries the water-blasted parts at the touch of a button.

Innovative containers for convenient storage and safe powder loading


PATENTED POWDER PACKAGES

3D Systems' sealed powder packages and a unique refill interface for the SLS 300 3D printer, minimizes contact with the material when loading it into the SLS 300. This means safer handling for you and your coworkers as well as a powder-free and tidy office environment.

REFILL INTERFACE ON PRINTER WITH OPTICAL IDENTIFICATION SYSTEM

The SLS 300 3D printer uses a built-in reader to quickly scan whether the user's choice of powder matches the machine's preset material. If the two match, the machine gives the green light to continue filling. The safe powder filling system is both open and encrypted, meaning the open part is the one that gives a green or red light. The encrypted part is inside the SLS 300 and detects that there is nothing wrong with the packaging, for example that it's an original packaging with correct material with which the user fills the machine. An attempt to fill the wrong material will trigger a red light and stop the printer from filling powder until a correct cannister with the correct powder is placed in the filling position.
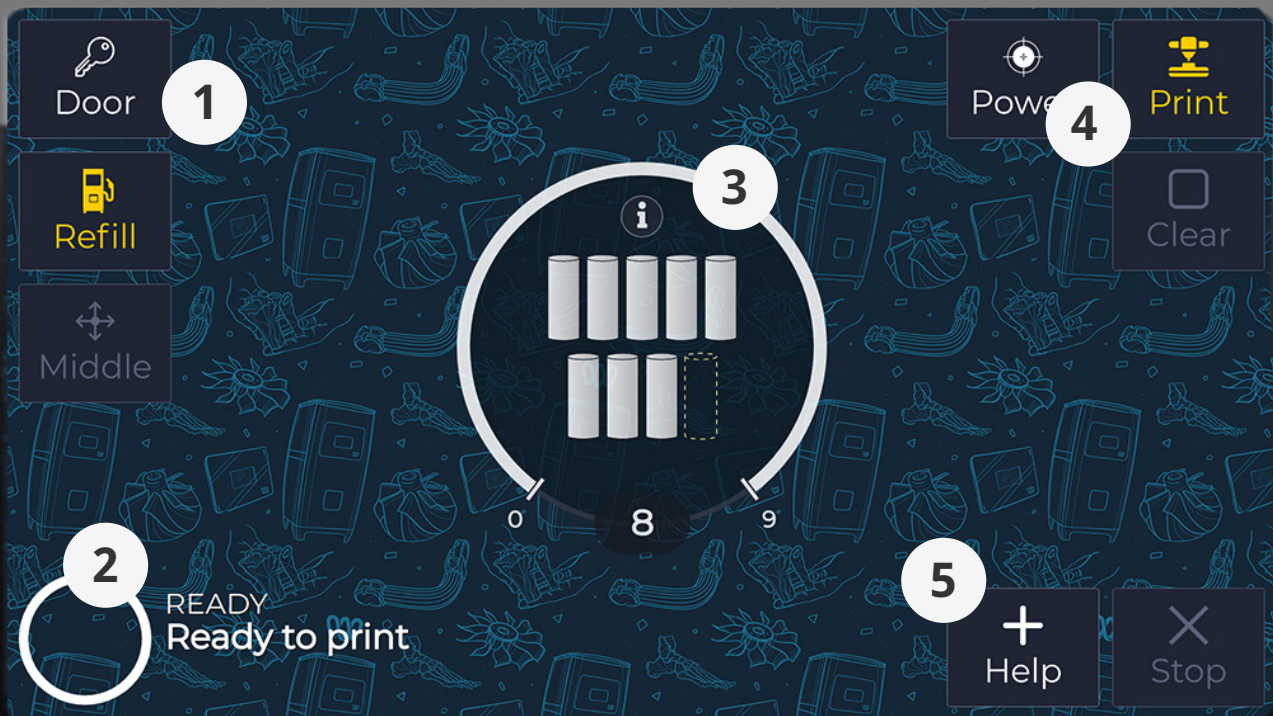
Integrated touch screen makes everyone an expert

Contextual help guides, camera feed and realtime status feedback during printing

With the control panel you can keep track of everything you need on a 13.3 inch touch screen. An integrated camera lets you monitor ongoing print jobs and shows estimated finishing time and current status. Contextual help guides instruct you through steps such as loading the printer with new powder, cleaning the chamber or extracting finished parts from the build.

1. KEYS FOR ALL YOUR DOORS
Door unlocks the chamber door to access the build and extract finished parts. With the **Refill** button you open up the powder hatch to load the SLS 300 with new material. **Middle** moves the recoater to the center of the chamber for easy access during cleaning.

2. REALTIME STATUS FEEDBACK
The status wheel shows the status of the SLS 300 in realtime and during printing, it lets you know how many layers have been completed and at what time the build will finish.

3. POWDER OVERVIEW
See how much material the printer is loaded with both by percent of powder remaining and in terms of the number of powder packages.

4. A PRINTER THAT REMEMBERS
When starting a print job from the touch screen, the SLS 300 keeps a record of your latest builds to facilitate production of recurring parts.

5. CONTEXTUAL HELP GUIDES
Step-by-step lists with images and videos instruct users on performing maintenance and other tasks.

Deep Space software powered by the cloud

Print Parts Quickly, Anywhere, and for the Whole Team

Deep Space is a cloud-based software suite used for preparing and monitoring print jobs as well as managing an organization's fleet of SLS 300 3D printers. It's a platform with an intuitive and user-friendly interface, and really powerful nesting software, providing the ability to share printer queues along with an integrated user guide.
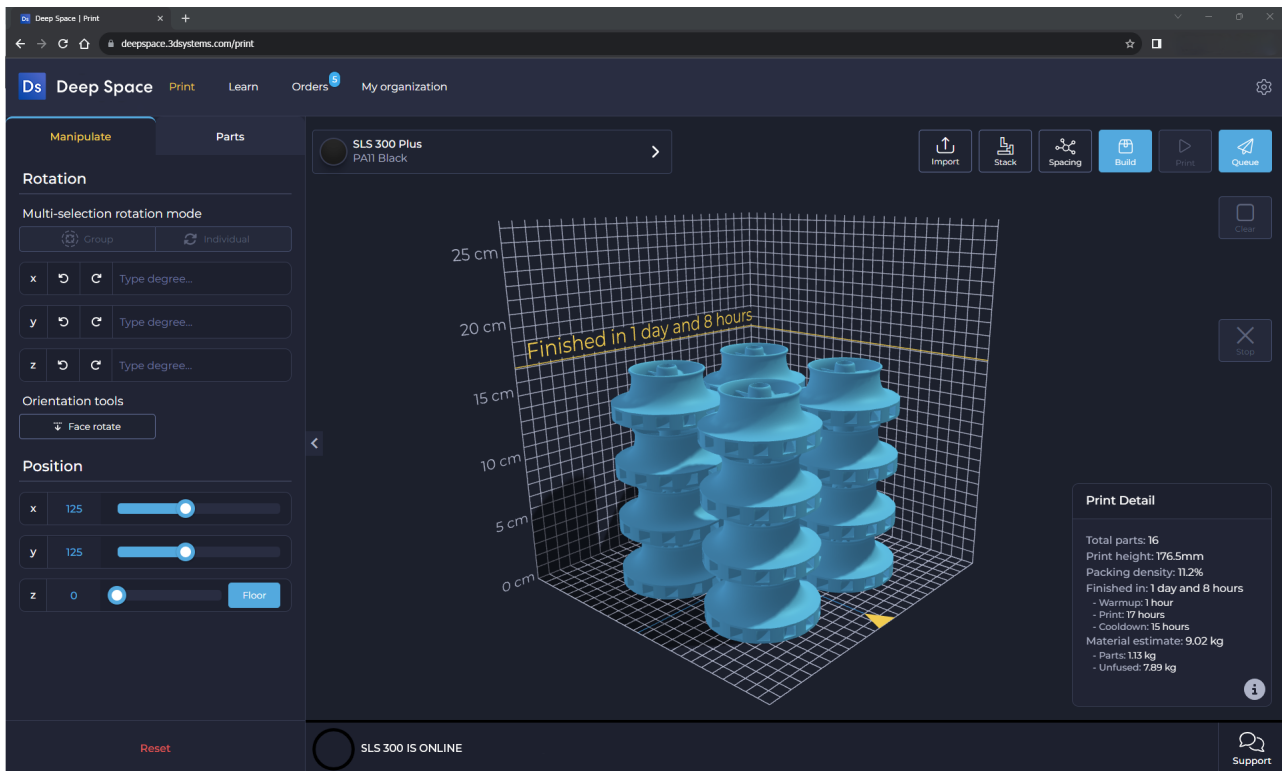
AUTOMATED NESTING WITH STACKER

One of the advantages of additive manufacturing is the ability to position the parts on the build plate in a way that will maximize throughput. The Stacker feature of Deep Space automatically orients each part for a more dense build with a lower height - reducing powder consumption, saving time, and increasing productivity.

SEE PRINTER STATUS FROM ANYWHERE

The Service Panel provides full control over a variety of settings on the printer, from when service can optimally be scheduled on individual printers to which materials and settings are used on each. Dealers and partners can also use this feature for remote service.

SCAN QR CODE TO EXPLORE AVAILABLE SOFTWARE FEATURES

BUILT FOR TEAM COLLABORATION

The part queue function enables you to collaborate easily: no more third-party platforms to share files. Scenes from the part queue will look the exact same to anyone who imports them, be it a colleague from your team or someone from another department.

Suitable for a wide range of applications

Ideal for offices, material research labs, or workshops

Manufacturing of industrial functional prototypes

A functional prototype is a sample or model of a product, which is built to test a concept or process or to act as a visual prop to be replicated, improved, and learned from. SLS technology is suitable for functional prototypes thanks to having excellent mechanical properties, freedom of design to create impossible prints, durability and excellent accuracy. Support structures are not required and the prototype is suitable for coloring and surface treatment.
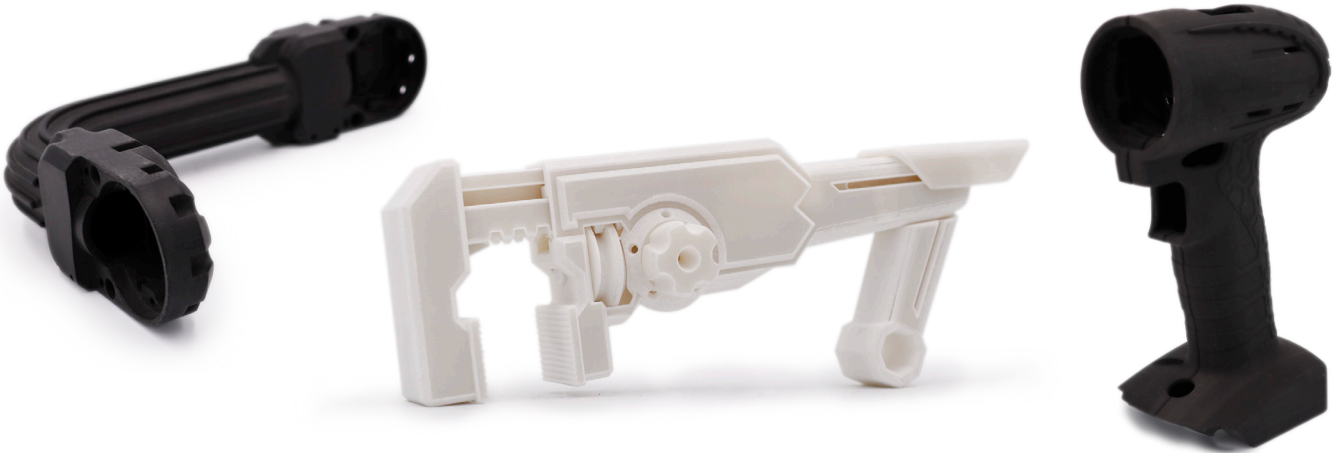
Low volume production and spare parts

Compared to injection molding, SLS 3D printing is an excellent choice for low to mid-volume manufacturing. Complex forms and geometries may be produced with SLS and the parts can have a broad range of finishes and the lead times can be very short.

Education and research

Include professional SLS in your material research laboratory, with a minimal footprint. Manage printers via our cloud-based software and benefit from our intuitive guides. Create accurate three-dimensional visualizations, custom, precision parts or explore advanced applications in an educational setting.

SCAN QR CODE TO EXPLORE OUR FULL MATERIAL RANGE

Customized durable medical equipment

SLS 3D printing generates products that are recognized for their increased stiffness, which is a major requirement for durable medical equipment such as orthotics, prostehtics and supplies. SLS 3D printing can also be used to create surgical models.

A stable thermal environment

Increased part density, surface finish, and mechanical performance

Thanks to the SLS 300 Atmosphere Generator, you have improved control of build chamber conditions in the printer for increased part density, surface finish, and mechanical performance. The Atmosphere Generator communicates with the SLS 300 3D printer's software and creates a more stable thermal environment during the printing process. The Atmosphere Generator gives:

- Increased mechanical properties of components for large print jobs

- Increased powder recyclability rate of unsintered material

- 70% improved strain at break of printed parts when using the Atmosphere Generator with recycled powder compared to printing without it

- Increased aesthetic characteristics for white printing material

- Enables increased efficiency of powder when printing components
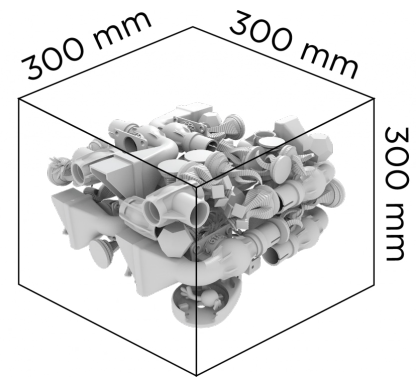
The ideal compact SLS solution

Expands high-durability nylon printing into an attractive price-point

BUILD VOLUME
The 300 x 300 x 300 mm build volume is ideal for large parts or batches of small parts.

ENVIRONMENTAL FLEXIBILITY
CE-marked for the flexibility to use in an office, material research lab, and other general workshop settings.

DIFFERENT APPLICATIONS
Engineered for prototyping and durable enough for small-volume use.

HIGH-QUALITY NYLON PARTS
The perfect solution if you want the durability and flexibility of nylon SLS parts, with the added benefit of using sustainable and potentially recyclable materials

SMALL FOOTPRINT
A compact SLS printer that delivers large parts while only requiring a small amount of floor space.

A Customizable 3D printing solution for the office

Available in different packages with optional accessories to meet your business needs.

A modular system

Choose the modular set-up most suitable with optional accessories to meet your business needs.

SCAN QR CODE TO EXPLORE AVAILABLE SYSTEM VERSIONS

You should only have to aquire the equipment you have use for. You can upgrade your Deep Space software to another version if your needs or budget changes with time or extend your range of available powder materials.
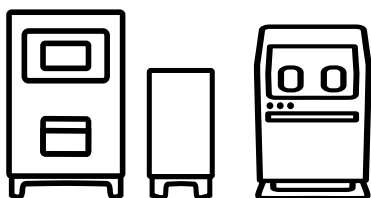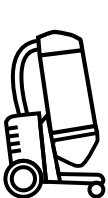
HARDWARE EQUIPMENT   **MATERIALS**   **SOFTWARE**   **SERVICE**

SLS 300 system specifications

SLS 300 3D PRINTER

Dimensions (WxDxH)	75 x 65 x 170 cm (30 x 25 x 67 in)
Weight	310 kg (683 lb)
Power consumption	400 W (printing) 2000 W (warm-up)
Electrical Requirements	1 x 230 V, AC 10 A, 50 Hz (EU) 1 x 115 V, AC 15 A, 60 Hz (US)
Laser Power Type	50 W, CO_2
Max Build Volume	30 x 30 x 30 cm (12 x 12 x12 in)
Printing speed	12 mm (0.47 in) per hour / 1 liter per hour
Printer controls	13.3" display with touch screen
Network	Ethernet, 1 Gigabit RJ 45
Printer controls	13.3" display with touch screen

ATMOSPHERE GENERATOR

Dimensions (WxDxH)	83 x 41 x 77 cm (33 x 16 x 30 in)
Weight	90 kg (198 lb)
Electrical Requirements	1 x 230 V, AC 3 A, 50 Hz (EU) 1 x 115 V, AC 6 A, 60 Hz (US)

POWDER PACKAGE

Dimensions	10 x 10 x 54 cm (4 x 4 x 21 in)
Weight	2.5 kg (5.5 lbs) including material
Storage temperature	25 °C ± 10 °C
Reusable	Yes
Packaging material	Cardboard, paper and wood
Locking mechanism	Sealed lid with patented refill interface

WATER JET CABINET

Dimensions (WxDxH)	When closed: 75 x 66 x 170 cm (30 x 26 x 67 in) When open: 75 x 66 x 225 cm (30 x 26 x 89 in)
Dimensions (WxDxH)	75 x 66 x 222,5 cm (30 x 25 x 88 in)
Weight	170 kg (375 lb)
Power consumption	1400 W
Electrical Requirements	1 x 230 V, AC 10 A, 50 Hz (EU) 1 x 115 V, AC 15 A, 60 Hz (US)
Water pressure	50-100 bar
Compressed air	Recommended working pressure 4-6 bar Maximum pressure 8 bar

POWDER VACUUM

Dimensions (WxDxH)	68 x 110 x 40 cm (27 x 43 x 16 in)
Weight	30 kg (66 lb)
Electrical Requirements	1 x 230 V, 5 A, 50-60 Hz
Motor output	1,2 kW
Max theoretical airflow	200 m³/h

DEEP SPACE SOFTWARE

System requirements	Google Chrome 93 and up | WebGL 2.0 |4GB RAM (8GB recommended)
Hardware requirements	SLS 300 3D printer
File types	.STL, .STEP, or .3MF

KONTAKT

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