

## INTRODUCING **THE FUSE 1** PRODUCT LINE

The Fuse 1 and the accompanying Fuse Sift post-processing station demonstrate what Formlabs does best: bringing powerful, advanced technology to the masses in a cost-effective, intuitive, and compact format.

# Fuse 1

The Fuse 1 is poised to set a new standard for SLS printing. It brings production-ready technology once reserved for service bureaus to your benchtop at a tenth of the cost of industrial SLS alternatives without compromising print quality.

With an industry-leading refresh rate of just 30% for efficient powder reclaiming, the Fuse 1 produces fully-functional parts using our custom Nylon 12 Powder, with additional materials in development. A spacious build volume of 165 x 165 x 300 mm means you can print everything from full-sized prototypes to large batches of end-use parts, all in a single print.

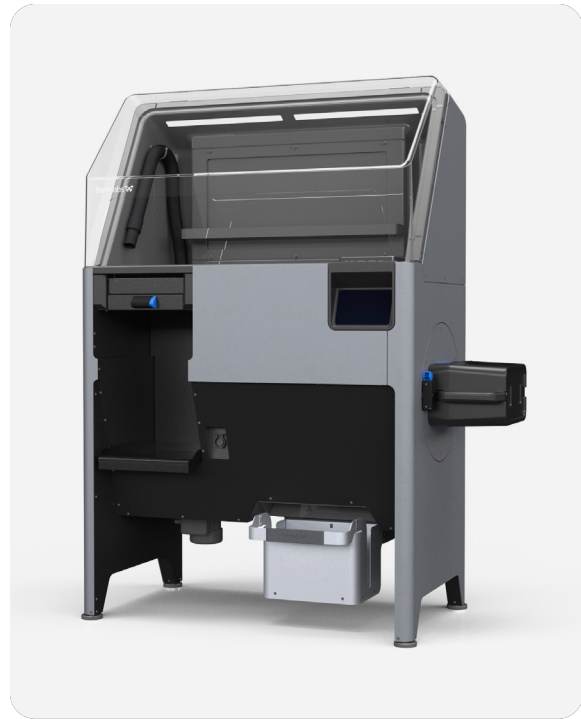


## TECH SPEC HIGHLIGHTS

<b>BUILD VOLUME</b> (W X D X H)	165 x 165 x 300 mm (6.5 x 6.5 x 11.8 in)
<b>LAYER THICKNESS</b>	110 microns (0.0043 in)
<b>STARTUP TIME</b>	60 minutes
<b>LASER TYPE</b>	Ytterbium Fiber
<b>LASER SPECIFICATIONS</b>	EN 60825-1: 2014 1065 nm Maximum 10 Watts 4.01 mrad beam divergence (nominal, full angle) Class 1 Laser Product
<b>LASER SPOT SIZE</b> (FWHM)	200 microns (0.0079 in)
<b>HOPPER CAPACITY</b>	8.5 kg (18.7 lbs) of Nylon 12
<b>MATERIAL REFRESH RATE</b>	30 – 50 %
<b>BUILD CHAMBER</b>	Modular, compatible with Fuse 1 and Fuse Sift

## Fuse Sift

The Fuse Sift is the best sidekick an SLS printer could ask for, combining powder reclamation with part extraction, powder, storage, and mixing in a single free-standing device. A negative air pressure system prevents powder from pluming into your workshop or studio while also enabling open access under the hood and easy cleanup with the integrated vacuum hose. No other SLS system on the market today provides this level of functionality from one device.



## Build Chamber

SLS 3D printing uses a fiber laser and a moving print platform to fuse powder into near-isotropic parts. The build chamber, a key component of the process, is the container into which the print bed lowers the cake of sintered parts and unsintered powder while printing. After completing a print, you can remove the build chamber from the Fuse 1 and load it into the Fuse Sift for cooling, part extraction and material reclamation.

Keeping an extra build chamber in your toolkit allows you to run a new print as soon as a previous job is completed, similar to working with multiple build platforms on our stereolithography printers like the Form 3. Each Fuse 1 includes one build chamber, and additional units are available for purchase.



## Powder Cartridge

The Fuse 1 uses a powder cartridge to load material dispensed from the Fuse Sift into its hopper. The powder cartridge is also used as a mixing vessel when combining fresh and used powder.



## Powder Containers

Formlabs SLS printing powder ships in a box containing two 3 kg containers, and an RFID card preloaded with virtual print credit. Fresh powder is added to the Fuse Sift, while powder credit is added to the Fuse 1 for tracking material usage and available unsintered powder.



## PreForm

The Fuse 1 uses intuitive PreForm print preparation software to automate print setup as much as possible and allow for powerful manual refinement as needed. PreForm for SLS offers advanced setup and monitoring tools, including a live video feed of the print bed. Those familiar with Formlabs stereolithography printers will be able to use the same software across their fleet, and FORM files are cross-compatible across machines.

