





# Fuse 1

High Performance SLS 3D Printer

## The industrial power of selective laser sintering (SLS) in your workshop.

#### Fuse 1

Manage prototyping and production yourself, in your space, at a tenth of the cost of existing SLS machines.

#### A Complete SLS Solution

Full ecosystem includes a benchtop SLS 3D printer, post-processing station, and intuitive software for setting up and managing prints.

#### No Specialized Infrastructure

No need for a dedicated room, inert gas, or special air handling equipment.

#### No Supports

Pack the build chamber full of parts, print intricate geometries, and save time in post-processing.

#### **Powder Recovery System**

Print with up to 50% recycled powder.



### **Technical Specifications**







#### FUSE 1

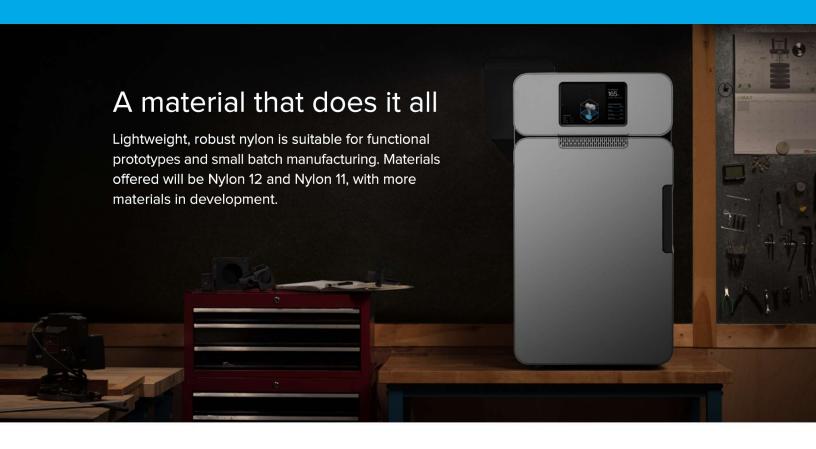
Print Engine	Selective Laser Sintering	
Build Volume	165 x 165 x 320 mm	
Build Speed	10 mm / hour	
Layer Thickness	100 µm	
Material Refresh Rate	Up to 50 %	
Startup Time	60 minutes	
Network Connectivity	Ethernet or Wi-Fi	
Dimensions	677 x 668 x 1059 mm	
Weight	88 kg	
Power Requirements	2 kW, 120 or 240 VAC	

#### OPTICAL SYSTEM

Galvanometers	Formlabs Custom	
Scan Speed	2,000 mm/sec	
Laser Type	Fiber rated to > 10,000 hrs	
Laser Wavelength	1064 nm	
Laser Power	10 W	
Laser Spot Size	200 μm (FWHM)	

#### SOFTWARE

Print Preparation	PreForm Desktop Software	
File Type	.STL or .OBJ	



#### Nylon 12: Material Properties

MEASUREMENT	AS PRINTED ON FUSE 1	PUBLISHED VALUE
Ultimate Tensile Strength (XY)	52 MPa	50 MPa
Ultimate Tensile Strength (Z)	50 MPa	48 MPa
Tensile Modulus (XY)	1800 MPa	1850 MPa
Tensile Modulus (Z)	1900 MPa	1800 MPa
Elongation at Break (XY)	14 %	12 %
Elongation at Break (Z)	7 %	6 %

#### Feature Design Guidelines

FEATURE	MINIMUM VALUE	FULL STRENGTH / DEPTH
Wall Thickness	0.75 mm	2.00 mm
Pin Diameter	1.00 mm	2.00 mm
Hole Diameter	0.60 mm	1.00 mm
Slot Width	0.75 mm	3.00 mm
Moving Part Clearance	0.25 mm	1.00 mm



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