

micronics

SLS 3D Printer Datasheet



Micronics LLC
1360 Regent Street
Suite 164
Madison, WI 53715
micronics3d.com

micronics

Overview

Technology	Selective Laser Sintering (SLS)
Machine Dimensions (W X D X H)	310 x 330 x 700 mm
Machine + Build Chamber Empty Mass	19 kg
Build Volume (X x Y x Z)	160 x 160 x 203 mm (5.2 L)

Print Properties

Material Compatibility	PA12, TPU 90A (Currently Supported) PA12 GF30, PA11, PA6 GF30, PP (Upcoming)
Usable Build Volume (X x Y x Z)	145 x 145 x 200 mm
Layer Thickness	100 - 150 μ m, 130 μ m Recommended
Build Chamber	Fully Enclosed, Self-contained Powder Storage
Powder Storage Capacity	7 L
Printer Cleaning for Material Changeover	Not Required
Heat-up Time (25°C Ambient)	< 20 Minutes
Cooldown Time (Full Build)	< 6 Hours
Maximum Build Speed	67 mm/hour (Z direction, 150 μ m Layers)
Typical Build Speed (15% Cross Section Fill)	8 mm/hour (Z direction, 130 μ m Layers)
Material Refresh Rate	<10% (Zero Waste if >10% Build Volume Filled)

Printer Details

Laser Source	5W 447nm CW Diode
Laser Scanner	Proprietary Closed-Loop X-Y Galvanometers
Surface Heating	4 Zone Halogen Heater
Chamber Heating	13 Zone Resistive Heater
Air Handling	2-Stage Carbon and HEPA filter
Radiation Rating	Class 1 Laser Product
Connectivity	SD Card, 2.4GHz Wi-Fi (Beta)
Power Requirement	120VAC 10A / 240VAC 5A Single Phase
Average Power Consumption	450W
Operating Environment	18-30 °C, <80% Relative Humidity

Software

Slicer	Micronics MicroSlicer
Minimum System Requirements	Windows 10/11 64-bit DirectX 11/12 Compatible 8 GB RAM
Supported File Formats	.STL
Part Nesting	Automatic / Interactive / Manual

Post Processing

Powder Handling & Refresh	Manual Sifting Shaker Bin
Refreshed Powder Capacity	7.2L
Air Filtration	Detachable HEPA Air Filter Unit
Vacuum Cleaner	Not Required

Design Guidelines

Maximum Part Size (After Shrinkage)	140 x 140 x 195mm
Minimum Wall Thickness	Vertical Walls: 0.6mm Horizontal Walls: 0.3mm
Minimum Hole Diameter	1.0mm
Minimum Pin Diameter	1.0mm
Minimum Emboss/Engrave Feature	Depth: 0.2mm Text Height: 3mm Bold Fonts Recommended
Print-in-Place Assembly Gap	< 20mm ² Interface Area: 0.3mm > 20mm ² Interface Area: 0.6mm
Cavity Powder Escape Hole	2 holes, Minimum Diameter: 3.5mm
Minimum Clearance Between Separate Parts	1.0mm
Assembly Gap	0.3mm

