



## V650 Flex 3D Stereolithography Printer

Highly Configurable, Open-Source  
Stereolithography Printing

# V650 Flex 3D Stereolithography Printer



The Stratasys V650™ Flex offers the speed and precision of SL 3D printing in a large, open-source, configurable architecture. It's built for production with a proven record of reliability to maximize productivity with unprecedented uptime. <sup>1</sup>

At the heart of this system are four pre-qualified DSM Somos<sup>®</sup> resins, engineered for specific applications. Purchasing is available through Stratasys for a seamless customer support experience.

- Somos<sup>®</sup> Element – Dimensionally stable, antimony free with superior finish and low residual ash, designed specifically for investment casting patterns.
- Somos<sup>®</sup> NeXt – Tough and durable with the look, feel and performance of traditional thermoplastics.
- Somos<sup>®</sup> PerFORM – Heat-tolerant and rigid, with exceptional resolution for demanding applications such as tooling, housings and wind tunnel test models.
- Somos<sup>®</sup> Watershed XC 11122 – Unparalleled clarity and water resistance with ABS and PBT-like properties.

## Versatility

The highly configurable V650 Flex gives you a choice of resins, build styles, laser power and beam size adjustments. Open-source material capability offers the option to use DSM Somos resins or any 355nm resin you choose. This flexibility lets you tailor the V650 Flex to your specific stereolithography print needs, a first in the industry.

## Precision

The V650 Flex's 0.004 inch (100 microns) minimum layer thickness and 0.0005 inch (12.7 microns) X-Y resolution yield parts with exceptionally smooth surfaces and precise details. The ability to produce thin walls and fine features with dimensional accuracy produces superior investment casting patterns.

## Efficiency

The V650 supplies over five cubic feet (0.14 square meter) of build capacity within a space-efficient 77 square feet (7.2 square meters) operational footprint. <sup>2</sup> Plus, the V650 process offers the highest material efficiency with the lowest material usage. Smart power controls provide uninterrupted print capability during brief power outages. Save time on material changes with interchangeable vats.

<sup>1</sup> Based on 10 systems operating for four years at Stratasys Direct Manufacturing.

<sup>2</sup> Operational footprint measured with all doors open and includes door swing radius.

## 3D Printer Specifications

### Laser

Type	Q-switched harmonic diode pumped solid-state UV laser
Wavelength	354.7 nm
Power @ 5000 hrs	700 mW at source, at 100 kHz pulse rate

### Optical And Scanning – X/Y Axis

Beam Diameter <sup>3</sup>	0.005 – 0.030 in. (127 – 762 µm)
Maximum Part Drawing Speed	700 ips @ 0.030 in. (762 µm) beam size; 150 ips @ 0.005 in. (127 µm) beam size
X/Y resolution	0.0005 in. (2,000 DPI)

### Elevator And Recoating - Z Axis

Minimum Layer Thickness	0.004 in. (100 µm)
Vertical Resolution	0.0000625 in. (1.6 µm)
Position Repeatability	0.0000625 in. (1.6 µm)
Maximum Part Weight	120 lbs. (54.4 kg)

### Vat Capacity

Volume	Half vat: 35 U.S. gal (132.5 L), Full vat: 67 U.S. gal (253.6 L)
Maximum Build Envelope	Half vat: 20 x 20 x 9.5 in. (508 x 508 x 203 mm), Full vat: 20 x 20 x 23 in. (508 x 508 x 584 mm)

### Build Preparation

Build Preparation Software	SolidView/Pro RP Build
Build Preparation Software Requirement	Windows 7 Service Pack 1; Windows 10 recommended
Input Data File Format	STL, AMF, SLDPRT, PRT, IGES, IGS, STEP, STP, OBJ, PLY, WRL and more
Electrical Requirements	110 – 230 VAC, 50/60 Hz, single phase, 1,000 W

### Ambient Temperature

Temperature Range	68 – 79 °F (20 – 26 °C); laser chamber max = 83 °F (28.3 °C)
Maximum Change Rate	1.8 °F/hour (1 °C/hour)
Relative Humidity	10 - 50% non-condensing

### Footprint

Crated Process Module	58 x 59 x 95 in. (211 x 140 x 244 cm)
Uncrated Process Module	55 x 50 x 87 in. (140 x 127 x 221 cm)

### Weight

Crated Process Module <sup>4</sup>	2,200 lb (998 kg)
Uncrated Process Module <sup>4</sup>	1,700 lb (771 kg)

### Miscellaneous

Options	Additional interchangeable vats, additional platforms
Warranty	1 Year, full coverage including laser

<sup>3</sup> User-specified at installation.

<sup>4</sup> Weight does not include vat or resin.

# V650 Flex 3D

## Stereolithography Printer



DESIGN



ADDITIVE MANUFACTURING



METROLOGY



Toronto, ON  
Montreal, QC  
Atlanta, GA

[proto3000.com](http://proto3000.com)

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