VIPER™ SLA® SYSTEM

Technology:	Stereolithography (SL) process
Material Class:	Liquid; Photo Reactive

Maximum applications versatility and sophisticated technology in the most affordable SLA system

With a long-life solid-state laser, dual resolution part building modes, choice of advanced solid-state Accura® SL materials, and inclusion of highly sophisticated SLA® system technology previously found on more expensive SLA systems — the Viper™ SLA system offers exceptional part building quality and versatility in a value-packed SLA system.

Dual-resolution part building system. The Viper SLA system integrates two different part building "modes" in a single system. Standard mode utilizes a beam diameter of 0.010 ±0.001 in., and is recommended for larger parts, or parts with routine tolerance requirements. To produce small- to miniature-sized parts, when precise feature definition or extremely tight tolerances are required — switch to High Resolution (HR) mode. HR mode provides a beam diameter of just 0.0030 ±0.0005 in., with a minimum feature size of just 0.007 inches*.

Long-life, solid-state power. The Viper SLA system utilizes a proprietary, long-life stable solid-state laser that delivers 100 mW of available power for reliable part building throughput, excellent part quality, and reduced operation cost.

Superior part quality and surface finish. The Viper SLA system builds accurate, high quality parts with exceptional smoothness, sidewall quality and unequalled fine feature detail and resolution that minimizes finishing effort. FinePoint™ supports offer easy, "no-hassle" support removal.

Advanced solid imaging materials for maximum applications potential.
Choose from the family of Accura® general purpose or specialty SL materials, offering diverse mechanical properties to provide broad range of modeling, prototyping, tooling or parts' production application capability. Produce durable, functional prototypes with Accura si 40 SL (stereolithography) material, or high quality patterns for casting or molding with Accura si 10 SL material. For other unique application capabilities, select from other materials, such as Accura Amethyst™ SL material, which is used exclusively with the Viper SLA system to produce exquisite, highly precise jewelry patterns and models. And, with the convenient roll-away vat systems used on all SLA systems, you can quickly switch materials between builds.

Easy-to-use software for maximum control of your build jobs. Included with each system is Windows-based 3D Lightyear™ file preparation software so your designers and engineers can prepare build jobs for the SLA system. Also included is Buildstation™ control software for comprehensive control of the build job parameters, and unattended "push-button" part building operation.

* Dependent upon part geometry, build parameters, and material.

Benefits:
- Dual build modes - High Resolution (HR) capability for the finest feature fidelity
- Long life solid-state laser
- Low cost of ownership
- Outstanding part quality and sidewall surfaces
- Multiple solid-state materials for added versatility
- Highly versatile range of applications
- Fully integrated system

Applications:
- Small to medium-sized concept and communication models
- Small to medium-sized prototypes
- Patterns for investment casting using the QuickCast™ build style
- Parts with extremely fine detail
- End-use parts
- Jewelry models and patterns
- Hearing aids

3D SYSTEMS

Viper SLA System Specifications

Standards and Regulations: This SLA system conforms to Federal Laser Product Performance Standards 21CFR1040.10 Class I laser in normal operation. During field service, emission levels can correspond to Class IV laser product. The Viper SLA system complies with CE requirements.

LASER	
Type	Solid state Nd:YVO$_4$
Wavelength	354.7 nm
Power at vat	100 mW available
Laser Warranty	7500 hours or 12 months (whichever comes first)

RECOATING SYSTEM	
Process	Zephyr™ recoating system
Build layer capability*	Minimum — 0.02 mm (0.001 inch) Typical — 0.10 mm (0.004 inch)

OPTICAL & SCANNING	
Beam (diameter @ 1/e^2)	Standard mode - 0.250 +/- 0.025 mm (0.010 +/- 0.001 in) HR mode - 0.075 +/- 0.015 mm (0.0030 +/- 0.0005 in)

ELEVATOR	
Vertical resolution	0.0025 mm (0.0001 in)
Position repeatability	0.0076 mm (0.0003 in)
Maximum part weight	9.1 kg (20 lb)
Typical velocity during part building	5 mm/sec (0.2 in/sec)

VAT CAPACITY**	
Volume	32.21 L (8.5 U.S. gal)
Maximum build envelope in Standard mode	250 x 250 x 250 mm XYZ (10 x 10 x 10 in)
Maximum build envelope in HR mode	125 x 125 x 250 mm XYZ (5 x 5 x 10 in)
Interchangeable vat	Yes

SYSTEM CONTROLLER & SOFTWARE	
Control software	Buildstation software
Operating system	Windows NT (4.0 with Service Pack 3 or higher)
Input data file format	.stl, .slc
Network type and protocol	Ethernet, IEEE 802.3 10/100 Base-T

POWER	
100 - 120 VAC +/-10% 50/60 Hz, 6 amps	15 amp, 115V
220 - 240 VAC +/-10% 50/60 Hz, 3 amps	8 amp, 230V
UPS power rating	2KVA minimum

AMBIENT TEMPERATURE	
Temperature range	23 °C +/- 3 °C (73 °F +/- 5 °F)
Maximum change rate	1 °C/hour (3.4 °F/hour)
Relative humidity	20 - 50 %, non condensing

SIZE	
Crated machine	W168 x D102 x H211 cm (W66 x D40 x H83 in)
Uncrated machine	W134 x D86 x H178 cm (W52.5 x D33.5 x H70 in)

WEIGHT	
Crated machine	564 kg (1242 lb)
Uncrated machine	463 kg (1020 lb)

OPTIONS
Interchangeable and Short/Shallow vats**
Additional build platforms
ProCure™ 350 UV Curing Chamber
ProClean™ SL part washer

SYSTEM WARRANTY
One year from installation date
Includes parts, labor, and 3D Systems' software upgrades

*   Dependent upon part geometry, build parameters and material.

**   Other vat sizes available

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