

# VANGUARD™ AND VANGUARD™ HS

SI2™ SLS® SYSTEMS

Technology: Selective Laser Sintering, SLS

Material Classes: Powder; Thermoplastic, Thermoplastic Elastomer, Metal, Composite



## Build functional parts and tools directly from CAD files

Representing the fourth generation of SLS® (selective laser sintering) technology, Vanguard™ and Vanguard™ HS (High Speed) are the first SLS systems developed specifically for advanced manufacturing applications. With the Vanguard system you can move directly from a CAD file to a durable, functional plastic or metal part or tool — in a fraction of the time required for traditional machining and tooling processes.

**Quickly generate small runs of production parts — without the tooling step.** The Vanguard system takes you from CAD files to functional parts in as little as one day. Produce small volumes of plastic or metal parts faster, at less cost, without dependence on costly tooling or skilled labor.

**Produce large volumes of parts with maximum efficiency.** Use our metal materials to build durable, complex metal tooling inserts, ready for finishing in as few as two days.

**Add parts during a build for maximum productivity.** Nest, stack and add parts while the machine is building. Vanguard and Vanguard HS operate unattended: set it up, let it work, and your parts are ready for direct use or final finishing.

**Build accurate, detailed parts, prototypes, patterns and tools — quickly and inexpensively.** Create accurate, complex parts, casting patterns, and tools with features as small as 0.5 mm (.02 inch), and without spending days and dollars programming for CNC. Simply export any native STL file to a Vanguard system in one simple operation, and you're ready to build.

## Use Vanguard or Vanguard HS system for:

- Plastic or metal parts, patterns & prototypes
- Complex metal tooling inserts
- Highly durable parts
- Parts with small features
- Short runs of plastic & metal parts

## Benefits

- High part accuracy
- Fast build speed
- Unattended operation
- Uses plastic or metal materials
- Respond to customer demands
- Worldwide service and support

SI2™  
SLS® SYSTEM



# Vanguard and Vanguard HS si2 SLS System Specifications



## LASER & SCANNING

Laser	25 or 100 Watt CO2 (material dependent)
Standard Beam Delivery System (BDS)	Maximum Scan Speed = 7,500 mm/sec
Celerity™ BDS	Maximum Scan Speed = 10,000 mm/sec

## CAPACITY

Maximum build envelope	W370 x D320 x H445 mm (W14.5 x D12.5 x H17.5 in)
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## SYSTEM CONTROLLER & SOFTWARE

Control software	Proprietary SLS system software
Operating system	Windows 2000 with Service Pack 1
Input data file format	.stl .slc
Network type and protocol	Ethernet, IEEE 802.3 10/100 Base-T using TCP/IP
System requirements	933 MHz Pentium III

## POWER

System	240 VAC, 12.5 KVA, 50/60 Hz, 3-phase
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## AMBIENT TEMPERATURE

Temperature range	23°C +/- 3°C (73°F +/- 5°F)
Atmospheric Requirements	Range = 15° to 27°C
Relative Humidity	= <70% non condensing

## SIZE

Process Station	W2.13 x D1.35 x H1.98 m (W84 x D53 x H78 in)
Computer Cabinet	W0.61 x D0.66 x H1.78 m (W24 x D26 x H70 in)
Chiller (U.S. and Asia Pacific)	W0.55 x D0.91 x H0.81 m (W22 x D36 x H32 in)
(Europe)	W54 x D71 x H93 cm (W21 x D28 x H37 in)

## WEIGHT

Process Station	1700 kg (3748 lb)
Computer Cabinet	118 kg (260 lb)
Chiller (U.S. and Asia Pacific)	113 kg (249 lb)
(Europe)	64 kg (141 lb)

## OPTIONS

A number of peripheral pieces of equipment that help break out parts, sift powder, and clean the machine most efficiently are available. Contact your local 3D Systems representative for recommendations on a package that will meet your needs.

## SYSTEM WARRANTY

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

**Warranty/Disclaimer:** The performance characteristics of these products may vary according to product application, operating conditions, material combined with, or with end use. 3D Systems makes no warranties of any type, express or implied, including, but not limited to, the warranties of merchantability or fitness for a particular use.

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