



Sinterstation[®] HiQ[™] SLS[®] systems

Automatically build functional parts, casting patterns and tooling inserts from your 3-D CAD data.



The Sinterstation[®] HiQ[™] SLS[®] (selective laser sintering) system directly produces end-use plastic or metal parts, tooling inserts, or casting patterns from your 3-D CAD data files. Eliminate the need for machining, tooling, casting or other secondary processes and save time and money.

APPLICATIONS

- Complex plastic prototypes and end-use parts
- Complex metal tooling, parts and prototypes
- Complex investment casting patterns
- Flexible, functional parts with rubber-like performance characteristics

BENEFITS

Consistent part quality

- Producing consistent parts, today and tomorrow, from build-to-build and from system-to-system
- Meeting the needs of rapid manufacturing

Improved ease-of-use

- Easier build set-up and break-out
- Reduced operator skill level
- Increased automation, less training required

Reduced operating costs

- Improved material recycling yields

3D SYSTEMS CORPORATION

TRANSFORM YOUR PRODUCTS

Sinterstation® HiQ™ series SLS® systems

Intelligent Thermal Control System for Consistent Part Quality.

This core technology included with the HiQ series SLS systems accurately monitors build temperatures throughout the build volume, automatically calibrating on a layer-by-layer basis, resulting in extraordinary quality parts with highly consistent mechanical properties throughout the part geometry. This control of the build process offers easy-to-use, highly repeatable operation from build-to-build, and system-to-system, with less training required, reduced skill to operate, and producing parts that require less post-processing. In addition, the Intelligent Thermal Control System delivers improved material recycling yields of the materials optimized for use with the Sinterstation HiQ™ system -- DuraForm® PA, DuraForm® GF, DuraForm® EX, DuraForm® Flex, DuraForm® AF, LaserForm™ A6, and CastForm™ materials -- resulting in reduced operating costs.

Add High Speed (HS) for Maximum Productivity.

For maximum speed and productivity, choose the Sinterstation HiQ™+HS system. This advanced system replaces the HiQ system's 30 watt CO₂ laser and Beam Delivery System (BDS) optics with the more powerful 50 watt CO₂ laser and high speed Celerity™ BDS optics to increase vertical build speed up to 1.8X faster (when using DuraForm® material).

Easy-to-use Advanced System Control Software.

Included with each new HiQ™ system is the latest LS software, featuring:

- Self-learning feature in the build-time-estimator greatly enhances accuracy of estimate
- Smart Feed -- Ability to perform Smart Feed Calculations outside of Preview; especially helpful when Adding/Deleting Parts during the build process. Smart Feed capability has also been added for CastForm PS material
- Smart Start - Start purging and heating at same time to start your build faster. Maximum benefit when used with 3D Systems' Nitrogen Generator
- Advanced .STL file cutting -- Cut .STL files along non-flat parting surfaces. Draw and edit the cut line, or punch rectangular or elliptical holes through parts. Includes pre-defined dovetail and tooth patterns for cuts
- Opti-Scale™ software calculates scale-and offset-factors
- Rotate view point by right mouse button and zoom using wheel mouse

Various levels of RealMonitor™ software allow advanced users to monitor, track and fine-tune the HiQ™ system.

TECHNICAL DATA

Laser & Scanning

| | |
|----------------|---|
| HiQ™ system | 30 watt CO ₂ laser with standard Beam Delivery System (BDS) at 5 m/sec (approximately 200 in/sec) maximum scan speed |
| HiQ™+HS system | 50 watt CO ₂ laser with high-speed Celerity BDS at 10 m/sec (approx. 400 in/sec) maximum scan speed |

Build Volume

| | |
|---------------------------------|--|
| Physical maximum build envelope | W381 x D330 x H457 mm (approx. W15 x D13 x H18 in) (XYZ) |
| | 57 liters |

System Controller & Software

| | |
|------------------------|---------------------------------|
| Control Software | Proprietary SLS system software |
| Operating system | Windows XP |
| Input data file format | .stl |

Power

| | |
|--------|-------------------------------------|
| System | 240 VAC 12.5 kVA, 50/60 Hz, 3-phase |
| | 380 VAC 12.5 kVA, 50/60 Hz, 3-phase |

Ambient Atmosphere

| | |
|-----------------------------|---------------------|
| Operating temperature range | 16-27°C (60-80°F) |
| Temperature setpoint range | 18-24°C (65-75°F) |
| Temperature stability | ± 2°C (± 5°F) |
| Relative humidity | <70% non condensing |

Warranty

One year.

All specifications are based on tests using 3D Systems' SLS systems and 3D Systems' LS materials. For weights and measures, refer to the SLS system Site Preparation Guide.

SinterScan™ software implements an advanced scanning strategy which will result in a less orientation-sensitive build set-ups, uniform properties in X and Y directions, and improved surface finish. Many users will find this an invaluable tool in their day-to-day operation of the system.



SYSTEMS

TRANSFORM YOUR PRODUCTS

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