

XENON™ S-2100

Rack-Mounted Sintering System

XENON's S-2100 family of sintering systems is designed to support both R&D and low volume manufacturing. These high energy Pulsed Light systems are designed for sintering of nanoparticle inks on low temperature substrates and low temperature curing of thin film substrates (e.g. organic photovoltaic, OLED displays, and nano inks such as Cu and Ag).



FEATURES

- Selectable pulse duration: 100 - 3000 μ s
- Adjustable pulse energy: 100 - 3000 Joules
- Single, double, burst & continuous modes
- Multiple lamp housing configurations
- Conveyor option for low volume manufacturing

S-2100 Rack-Mounted Sintering System

The XENON S-2100 includes a control rack, lamp cooling blower kit, all necessary interconnect cabling and a lamp with lamp housing for either a 107 mm spiral flash lamp, a 16" linear flash lamp or a 12" U-lamp. This versatile and powerful system is offered with a range of options which allow you to tailor the system to your specific sintering needs.

System Options

S-2100 Conveyor

The S-2100's optional conveyor enables the characterization of production processes. The system features a high energy pulsed lamp for reliable, repeatable sintering of nanoparticles on heat sensitive materials (e.g. organic photovoltaic, OLED displays, and nanoparticle inks such as Cu and Ag).

The S-2100 conveyor frame and lamp housing provide the tools for high throughput, repeatable sintering of heat sensitive materials. The frame can accommodate either one 16" Linear lamp-housing or two 12" U-shaped lamp-housings mounted on a rotating base. Both the 16" Linear and the 12" U-shaped are high intensity pulsed xenon lamps that provides a broad-band spectrum from 190 nm to 1100 nm with adjustable pulse energies up to 3000 Joules per pulse. The conveyor is capable of operating at speeds from 4.3 feet per minute to 26 feet per minute. The frame is fully equipped with a power distribution cabinet and emergency stop buttons for safe and reliable performance.

The serial controller allows for complete control of all S-2100, blower and conveyor functions through a laptop PC or optional touchscreen control. The RECIPE STORAGE and RECALL feature improves ease-of-use and process characterization.

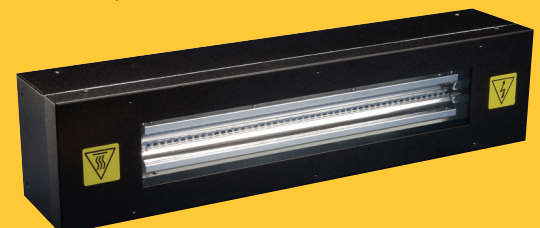
Spiral Lamp

The XENON S-2100 spiral lamp option includes 107 mm spiral flash lamp. The 107mm spiral flash lamp and reflector are mounted in a forced air cooled housing. The lamp housing is designed to easily mount onto the user's process chamber.



Linear Lamp

The 16" linear lamp and elliptical reflector are mounted in a forced air cooled housing. The lamp housing is designed to easily mount onto the user's process chamber.



XENON S-2100 Rack-Mounted Sintering System

Specifications

| | | |
|-----------------------------------|---|--|
| System Units | <ul style="list-style-type: none"> • S-2100 rack with up to 6 bays, each 4U height • Bay 1: Controller/Pulse configurator, Bay 2: Power Supply, Bay 3: Active Control, Bay 4: PFN 1&2, (Bay 5: PFN 3&4, Bay 6: PFN 3&4) • Lamp Housing: Model LH-830 with 12" U-shaped flash lamp, the LH-840 16" linear flash lamp or spiral lamp • Lamp Housing Blower Kit¹ • Optional Conveyor System includes: Conveyor, Frame and Power Distribution Cabinet | |
| Outline Dimensions (HxWxL) | | |
| Electronics Rack | 147 x 56 x 79 cm (58" x 22" x 31") | |
| Model LH-830 Lamp housing | 19.1 x 76.2 x 17.8 cm (7.5" x 30" x 7") | |
| Conveyor frame | 71.1 x 120.7 x 133.9 cm (28" x 47.5" x 52.7") max height | |
| Conveyor | 30.5 x 152.4 x 9.5 cm (12" x 60" x 3.75") | |
| User Controls | | |
| Pulse modes | Single/Double/Continuous/Burst | |
| Flash lamp ON time | Programmable 100µs to 3000µs in 1µs step | |
| Flash lamp Pulse Rate | Max 10Hz | |
| Lamp Voltage | 1.6 kV to 3.2 kV Digital Control | |
| Conveyor Speed | 1.3 - 8m/minute (4.3' to 26' per minute) | |
| Power Input | | |
| S-2100 Rack | 1-phase 200-240Vrms, 50/60 Hz, 30 amps, max | |
| Conveyor with Blower | 1-phase 208Vrms, 60Hz, 10amps | |
| Output | | |
| Energy Range per pulse | 100J to 3000J | |
| Power output to flash lamp | 1500 W, max | |
| Lamp Housing | Model LH-830 (one or two) | Model LH-840 (one only) |
| Arc Length, Spectra | 30.5 cm (12") U-shape flash lamp, Types A, B, C available | 40.6 cm (16") linear flash lamp, with type A or Type B spectra options |
| Window Opening (LxW) | 53 x 8.9 cm (21" x 3.5") | 53 x 8.9 cm (21" x 3.5") |
| Sintering Curing Area | 5.1 x 20.3 cm (2" x 8") | 1.9 x 30.5 cm (0.75" x 12") |
| Optimum Distance from Window | 2.5 cm (1.0") | 2.5 cm (1.0") |
| Cooling | | |
| Electronics Rack Units | Total of 7 internal fans, continuous ON | |
| Lamp Housing | External blower 3.0" Water Static Pressure | |
| Operating Environment | | |
| Temperature | 0°C - 40°C (32° - 104°F) | |
| Humidity | 10% to 90% relative humidity (non-condensing) | |

All specifications are typical unless otherwise noted (T AMBIENT @ +25 °C, VINPUT = 208). Specifications subject to change without notice
 1. Lamp Housing Blower Kit includes blower, blower filter, metallic ducting, duct clamps and main power cord.



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