NOVACENTRIX®

PulseForge® Invent™

- Newest platform
- Latest advancements in photonic curing
- Highly confirgurable
- Priced for R&D budgets

Base Configuration
PulseForge® Invent™

This state-of-the-art photonic curing system is highly configurable for academic budgets and advanced R&D, for development in applications like sensors, displays, circuits, and photovoltaics. At NovaCentrix we work with customers who have a wide range of processing requirements. Accordingly, the PulseForge® Invent™ is our most versatile platform yet.

Configuration Options
Base Model, High Power, and High Energy

150 mm lamp models

Base Model 150 mm lamp

Max Single Shot Exposure: 20 J/cm²
Max Lamp Voltage: 500 V
Lamp: 150 mm lamp
Power Supply: 1.5 kW
Drivers: 1 lamp driver
Peak Incident Power: 5 kW/cm²

Types of Processing Capabilities:
Suitable for applications including thermal sintering, UV curing/sterilization and drying

High Energy Model 150 mm lamp

Max Single Shot Exposure up to: 91 J/cm²
Max Lamp Voltage: 500 V
Lamp: 150 mm lamp
Power Supply: 1.5 - 5 kW
Drivers: 2 - 5 lamp drivers
Peak Incident Power up to: 5 kW/cm²

Types of Processing Capabilities:
Base model capabilities + ceramics/metals, drying focused applications

High Power Model 150 mm lamp

Max Single Shot Exposure up to: 96 J/cm²
Max Lamp Voltage: 950 V
Lamp: 150 mm lamp
Power Supply: 1.5 - 5 kW
Drivers: 2 - 5 lamp drivers
Peak Incident Power up to: 59 kW/cm²

Types of Processing Capabilities:
Base model capabilities + ceramics/metals, polyimide delamination for OLED production, silver nanowires, and a-Si annealing on glass

300 mm lamp models

Base Model 300 mm lamp

Max Single Shot Exposure: 11 J/cm²
Max Lamp Voltage: 950 V
Lamp: 300 mm lamp
Power Supply: 1.5 kW
Drivers: 1 lamp driver
Peak Incident Power: 7 kW/cm²

Types of Processing Capabilities:
Suitable for applications including silver nanowires, thermal sintering, UV curing/sterilization, and drying

High Energy Model 300 mm lamp

Max Single Shot Exposure up to: 64 J/cm²
Max Lamp Voltage: 950 V
Lamp: 300 mm lamp
Power Supply: 1.5 - 5 kW
Drivers: 2 - 5 lamp drivers
Peak Incident Power up to: 9 kW/cm²

Types of Processing Capabilities:
Base model capabilities + silver nanowires, ceramics/metals, drying focused applications

Optimized application processing may require tools to be configured towards High Energy or High Power. High Energy is typically for applications that require processing times longer than 3 milliseconds. High Power is typically for applications that require processing temperatures over 500˚C to be achieved in less than one millisecond.

HIGH ENERGY or **HIGH POWER**

Adding lamp drivers to the tool configuration increases the total energy J/cm² that can be delivered, or the total peak power that can be delivered, depending on the tool set-up.

Longer lamps (300 mm) require a higher voltage than shorter lamps (150 mm) to deliver the same conditions to substrate. The benefit of longer lamps is more coverage area per flash.

High Energy Model offered with 150 mm lamp or 300 mm lamp

High Power Model only offered with 150 mm lamp

What is peak incident power?

"Peak incident power (PIP)" refers to the instantaneous photon power striking the surface of the target materials. This can be measured using the bolometer that is included with each PulseForge tool. The percentage of electrical wall energy into the tool which goes through the electronics and the lamps and ultimately becomes PIP depends on the quality of the electronics engineering, lamp design, and reflector.

Processing printed electronics materials requires carefully tuned exposure conditions in order to achieve the best results. The PulseForge Invent offers many configuration options to match your specific project requirements.

Our applications team can help you with specifying which range of process capabilities is best for each application. If application needs change in the future, the PulseForge Invent tools can be readily upgraded.

Accessories for PulseForge Tools

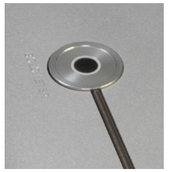
A variety of accessories are available which offer additional control of thermal, pressure, and gas exposure conditions to widen the process windows for extra challenging materials and material combinations.

CONTROLLED ENVIRONMENT CHUCK

Pre-heat samples up to 300°C or increase thermal transfer by cooling. A porous vacuum chuck minimizes thermal contact resistance and supports simple repeatable sample placement.

SAMPLE CHAMBER

Allows you to easily process your samples in a purge or vacuum environment. The stainless steel construction permits pressurization up to 25 psi and a medium vacuum.



BOLOMETER

Records the radiant exposure of your pulse conditions – this acts as an analytical check to ensure reproducible results.

Available for purchase on www.novacentrix.com

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