



nano3Dpoint

Micro and Nanoscale Materials Solutions

D4200S SERIES
BROCHURE 2016

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D4200S

FEATURES



The first commercially available Scanning Probe Microscope (SPM) based 3D printing and deposition system using advanced methodologies for three-dimensional (3D) printing with nanometer precision.

With our revolutionary deposition technology and proprietary deposition tips, nano3Dprint D4200S makes high-resolution piezoelectric actuated patterning of 3D structures in an almost unlimited range of materials possible.

3DNano Stage The 3DNano stage has excellent thermal and mechanical stability required for high resolution printing. Additionally, its open design facilitates user modification.

Rigid Frame Design The crossed beam design for the stage support is extremely rigid so the printer is less susceptible to external vibrations.

Light Lever Force Sensor Pen Tips Light lever force sensor pen tips are used. They ensure constant flow of deposition materials and permit many types of inks.

Integrated Pen Tip Holder/Pen Tip Exchanger A unique pen tip and deposition mechanism allow quick and easy pen exchange.

Direct Drive Z Stage A linear motion stage is used to move the pen tip in a perpendicular motion to the stage.

Small Footprint The stage dimensions of 7.5 X 12" require little space and fit easily on a tabletop.

Precision XY Stage with Micrometer The stage is moved relative to the probe with a precision xy micrometer stage. Thus, the sample can be moved without touching it.

Precision XYZ Piezo Scanner The modified tripod design utilizes temperature compensated strain gauges which assure accurate depositions

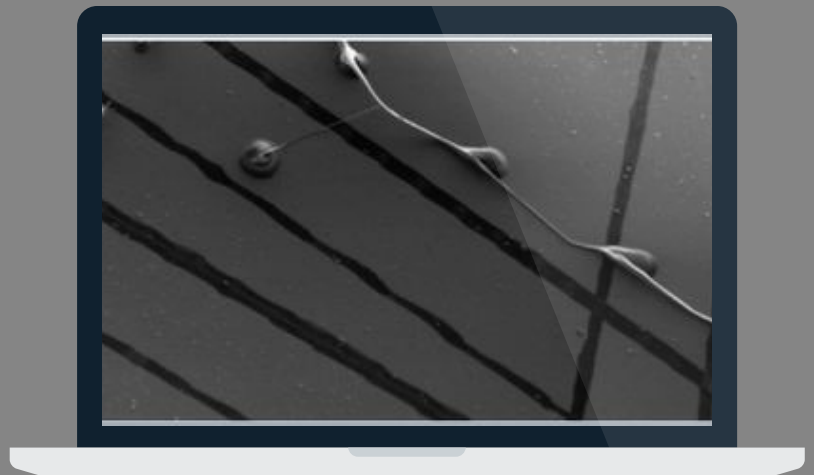
Revolutionary Deposition Technology The direct-write deposition system is able to write highly reproducible 50 micron to 5 nm linewidths with ± 1 nm precision in both the micro and nano scale.

TECH SPECS

| | |
|--------------------------|---|
| Sample Size | Up to 5cm x 5cm x 5cm |
| Standard Modes | Micro Deposition, Nano Deposition, Topographical Analysis |
| Video Optical Microscope | Zoom up to 400x, 2um Resolution |
| Precision | $\pm 0.2\%$ |
| Flow Rate | 0.003 - 6,000 uL/second (depending on dispenser selected) |
| Flow Rate Accuracy | $\pm 1\%$ |

APPLICATIONS

- Printed electronics
- Optical/Optoelectronic
- Semiconductor/Sensor/Battery
- Maskless Lithography
- Prototyping
- Bioprinting/Tissue engineering
- ... and more!



Nano3Dprint D4200S is ideal for creating, prototyping, bioprinting, researching, etc. It is the ideal tool for engineers, scientists, researchers, inventors, etc. If you can think of it, then nano3Dprint can do it. nano3Dprint is designed for high precision 3D printing, with layer resolutions of 20 μ m and below capabilities.

OUR PRICE

| SYSTEM | DESCRIPTION | PRICE (USD \$) |
|-------------------------|---|--|
| Full System (D4200S) | nano3Dprint D4200S M421 Micro-Writer Module N422 Nano-Writer Module | PS model: 27,950 PRO model: 89,785 EP model: 148,599 |
| Upgrade: Option 1 | Long-Travel Stage Module (2 samples or 3x6 cm xy) | 11,270 |
| Upgrade: Option 2 | Automated Sample Exchange Capability | 21,586 |
| Upgrade: Option 3 | Very-Long Travel Stage Module (1200x1200 mm) | 45,635 |

WHAT'S IN THE BOX

- nano3Dprint D4200S System
- Micro-writer tips kit:
 - Type A pipettes for high viscosity inks
 - Micro brushes
- Nano-writer tips kit
 - Micro tips (sizes: 20u, 10u, and 1u)
 - Nano tips (sizes: 1u, 500n, and 200n)
 - One ultra nano tip (size: sub-100n)
- Electronics Box
- Control Software + Analysis Software
- Video optical system
- Syringe pump



Innovate



Save



Triumph



Print

1. What environment is required for the Nano3Dprint D4200S?

The nano3Dprint D4200S will work in air/ambient atmosphere, vacuum, or a gas/controlled environment. The nano3Dprint D4200S is versatile and can meet customer's environment needs upon request.

2. How is the thickness of the deposition measured/insured/verified?

Nano3Dprint's deposition system is capable of deposition line widths from 50 μ to 50nm. The thickness can then be verified by use of optical microscopy and atomic force microscopy in real-time.

3. What is the system performance of the nano3Dprint D4200S?

The system is able to deposit material at the nanometer scale up to 30 $\mu\text{m}^2/\text{s}$ and at the micrometer scale up to 1 min^2/s . The translator specifications can be customer specific depending on the customers needs.

4. How does the D4200S compare with other materials printer?

The nano3Dprint D4200S allows you to have higher precision with a +/- 1nm precision for both Micro and Nano. In addition, the nano3Dprint D4200S is cost effective; it eliminates both manufacturing and efficiency costs.

5. I have a specific job for the D4200S, how much would a custom/upgraded printer for my specifications cost?

The nano3Dprint D4200S has many applications including: Printed electronics, Optical/Optoelectronic, Semiconductor/Sensor/Battery, Maskless Lithography, Prototyping, Bio printing/Tissue engineering, etc. However, there are personal customizations and upgrades available to facilitate and improve customer's specific applications. To request a quote you may:

a. E-mail: info@nano3dprint.com

b. Visit our website: <http://www.nano3dprint.com/>



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