

# PANDORA<sup>cGMP</sup>

## LAB SCALE ROTARY ALD RESEARCH TOOL 100ml batch size

Atomic level surface engineering...AT YOUR DESK!

Many scholars believe that PANDORA'S box actually contained something far less sinister... HOPE! Forge Nano created PANDORA to help unleash the power of Atomic Layer Deposition. This desktop research tool makes Particle Atomic Layer Deposition faster, more affordable, and more convenient than anything else on the market today. PANDORA comes ready to run out of the box and ensures worry free, reliable operation, day in and day out.

**cGMP COMPLIANT**  
CURRENT GOOD MANUFACTURING PRACTICE  
**EXCEEDS GLOBAL STANDARDS**

**ALD-ENABLED PARTICLE MATERIAL  
EQUIPMENT**

DESIGNED FOR APPLICATIONS IN:

- PHARMACEUTICALS
- BIO-PHARMACEUTICALS
- POWDER FLOWABILITY
- TIME-RELEASE
- ANTI-BACTERIAL/MICROBIAL



With multiple configurations and customizable options, this impossibly compact tool enables Atomic Layer Deposition research in an easily accessible and approachable form factor. With PANDORA, atomic level surface engineering is literally at your fingertips. PANDORA is equipped to perform Atomic Layer Deposition experimentation for a wide array of applications, on day one. When you are ready, Forge Nano can help you scale, and industrialize your application through our exclusive Commercialization Program.

Unlock your next BIG innovation with PANDORA.

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### Basic specifications and configurations

#### Precursors:

- Up to 6 inlet ports for gas and precursors
- Optional zoned precursor source heating
- Continuous or static flow compatible
- Reactor and manifold heating up to 200°C

#### Substrates:

- Powders (micron or larger spherical and rough)
- Extrudates
- Small objects
- Pharmaceutical APIs
- Fibers

#### Add-Ons:

- Precursor Inlet ports (Up to 6 total)
- Zoned precursor source heating up to 200°C
- Passive impactors
- Volumetric dosing
- Reactor view-port and internal lighting
- In-situ QCM
- Residual Gas Analyzer
- Vacuum Pump
- Plasma
- cGMP Compliance

Forge Nano is the world's leader in surface engineering at the atomic scale. Our suite of solutions range from lab scale research tools, to complete factory integrations designed specifically for efficiency, speed, scalability. For the first time ever, nano-scale coatings are fast, economical, and commercially available. The next wave of materials innovation is ahead.

Forge Nano puts the worlds leading Atomic Layer Deposition authorities at your fingertips. Contact our experts to learn about this breakthrough in materials science.

#### Chamber:

- 100mL maximum batch size
- Optional chamber inserts for added mixing
- Optional impactor for increased mixing
- Optional QCM port
- D-Keyed shaft for fast reactor exchange
- Real-time pressure and temperature feedback

#### Automation:

- Intuitive interface with recipe builder
- Real-time data logging
- Pre-defined recipes for fast startup

#### Additional Information:

- UL marked
- 200-220V 20Amp Circuit
- Ship and install anywhere

- Access to Forge Nano's Commercialization Services Program, including help with: Commercial Vetting, IP Protection, Equipment Design, Scalability, Planning, Manufacturing, Production, etc.

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