

PROMETHEUS

FLUIDIZED BED ATOMIC LAYER DEPOSITION TOOL

PROMETHEUS is the latest iteration of Forge Nano's cutting-edge powder ALD research tools. Our engineers have spent the last 10 years designing, optimizing, and improving this system to make it the best powder ALD research tool on the market. The PROMETHEUS series is the best choice for any researcher looking for a reliable powder ALD tool that enables truly scalable commercial applications.



"We realized the power of PROMETHEUS immediately in our research. Using PROMETHEUS makes ALD research easy, intuitive and reliable."

Designed for:

- **Powders**
Every single grain of powder is coated uniformly.
- **Ease of use**
Recipe-based control system enables experiments at the click of a button
- **Versatility**
Process a wide range of micro and nano powders from grams to kilograms
- **Customization**
Multiple dosing channels, 3 reactor sizes, and additional optional features.

Forge Nano is delivering PROMETHEUS around the world to enable a new generation of advanced materials. With a virtual white-space environment for intellectual property development, the pressure is on to discover the next materials science breakthrough, and PROMETHEUS is the tool to make it happen.

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Forge Nano's PROMETHEUS tool is the world's most reliable, flexible, and economical Particle Atomic Layer Deposition (ALD) R&D system. PROMETHEUS tools facilitate groundbreaking R&D and new product development, while enabling IP generation.

Key Specs	PROMETHEUS models	P-2L	P-2	P-4	P-6	P-8
Vapor Draw Sources	Basic Precursor Delivery	2	2	2	4	4
	Low Vapor Pressure Precursor Delivery	-	-	2	2	4
Reactor Style	Vibrating Fluidized Bed Reactor	Standard				
Reactor Construction	Stainless Steel Body w/metal seals					
Reactor Temperature Range	Up to 400 °C					
Maximum Process Line Temperatures	Up to 200 °C					
Abatement Module	Foreline Traps, Filtration Unit					
MMI	Computer included with custom software					
Options: ✓ - Included ○ - available upgrade	Heat Jacketing *Basic insulation on P-2L	*	✓	✓	✓	✓
	Rotary Vane Vacuum Pump	-	✓	✓	✓	✓
	Mass Spectrometer	-	✓	✓	✓	✓
	Fluidization Aids (Jet Assist)	-	○	○	○	✓
	Reactor Design for Inert Handling in Glovebox <small>*not for use on late reactor (glovebox not included)</small>	-	○	○	○	✓
	Ozone Generator	-	-	-	-	✓

*Mass spectrometer and rotary vane vacuum pump removable upon request

Available reactor sizes (useable powder volume range): Small (0.5mL) Medium (12-150mL) Large (100-600mL)

All PROMETHEUS Tools include: Heated manifold for consistent precursor vaporization, multiple fluidization aids for uniform coating, prescribed operating boundaries, emergency stop logic, customized recipes for rapid innovation, multiple precursor zones for independent heating of solid and low-vapor pressure precursor, isolation valves for air-free handling of sensitive powders and coatings.

Forge Nano is a leading materials science company harnessing the power of Atomic Armor, the company's proprietary ALD nanocoating technology, to accelerate manufacturing innovation, transform product performance and achieve a more sustainable future for a range of industries around the world. Atomic Armor produces superior coatings that can unlock a material's performance at the atomic level and deliver custom solutions from small-scale R&D and laboratory work to large-scale, high-volume production lines.

Forge Nano puts the world's leading Atomic Layer Depositions authorities at your fingertips. Contact our experts to learn about this breakthrough in materials science.