

EasyTube® 5000

Metal Organic Chemical Vapor Deposition Tool firstnano



Standard Configuration

- CVDWinPrC™ based process control software for Real Time Process Control, Data Logging and Display, Recipe Generation and Editing
- Quartz Process Chamber
- Wafer Size to 50mm
- Resistance Heater for Temperatures up to 1000 °C
- Temperature Controlled Showerhead
- Wafer Rotation
- Molybdenum or SiC Coated Graphite Susceptor
- Adjustable Distance between Wafer and Showerhead
- Low Pressure Operation from 100 mtorr - 700 torr
- Automatic Substrate Loading/Unloading
- UHP Gas Lines
- Metal Organic Liquid Source Bubblers
- User Settable Warnings and Alarms
- Comprehensive Software and Hardware Safety System
- One (1) Year Warranty
- Semi - S2/S8 and CE Compliant

First Nano's EasyTube® 5000 MOCVD System

is an advanced research Reactor for depositing a wide variety of III -V and II-VI layers. The system is capable of meeting the exact criteria needed for producing a wide range of material specifications and quality multi-layer abrupt junction structures in a reproducible fashion.

The system has the capability of depositing MOCVD layers of desired composition on a suitable substrate with graded composition (achieved by programming the user friendly software to ramp the appropriate flows). Exact process control produces MOCVD layers with abrupt interfaces or individual layers having a graded composition.

The **ET5000 MOCVD** is designed to meet your R&D requirements with flexibility and low operating cost. The system allows the deposition of II-VI or III-V material on a single wafer up to 150mm in diameter. A temperature controlled showerhead delivering exact quantities of precursors and gases, coupled with substrate rotation during deposition, provides improved deposition uniformity.



Operated through our CVDWinPrC™ process control software, the system automatically logs data and graphically displays the time dependent values of user selected parameters. CVDWinPrC™ allows users to load preprogrammed recipes, modify, check /create new recipes and view real time or saved execution data.

Designed to meet today's stringent safety standards, the system can safely handle pyrophoric and toxic chemicals. The loadlock chamber option prevents process chamber contamination from air when loading/unloading substrates. The system has application customized safety protocols imbedded into the CVDWinPrC™ software.

R&D Turn-Key Equipment / Process Solutions

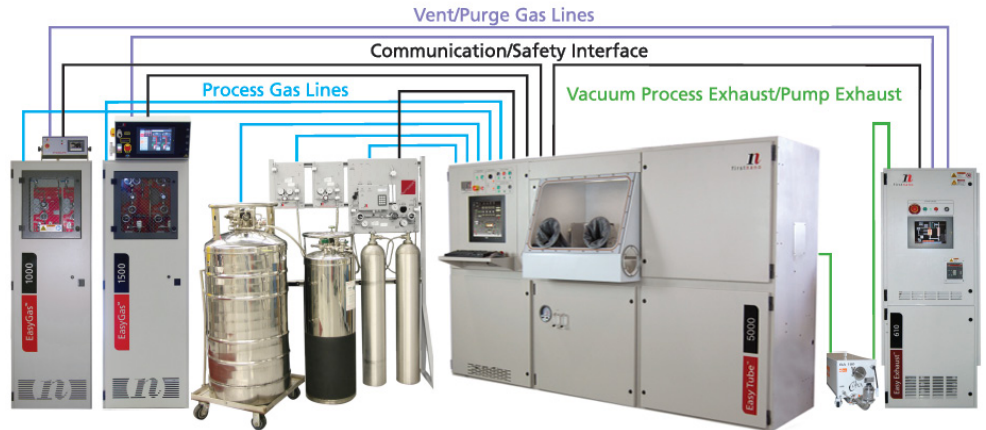
Options

- Stainless Steel Chamber
- Horizontal Induction (RF) Heating for Process Temperatures >1500°C
- Wafer size to 150mm
- Loadlock to protect the Process Chamber from Ambient Atmosphere
- Hydrogen Purifier
- Ar/N₂ purged Glovebox
- Air to Water Heat Exchanger for Cooling Water
- Residual Gas Analyzer
- **EasyGas™** Hazardous Gas Cabinets
- **EasyPanel™** UHP Gas Panels for Argon, Nitrogen, Helium, Oxygen
- **EasyExhaust™** Gas Conditioning System

Gas Cabinets

Process Equipment

Gas Abatement



First Nano offers turn-key system capabilities with support equipment such as Gas Cabinets and Exhaust Gas Conditioning Systems. All major components from one vendor makes interfacing easy. The First Nano **EasyGas™** gas cabinet is capable of delivering a variety of toxic and hazardous gases. The **EasyExhaust™** System will thermally pyrolyze and wet scrub the process effluents.

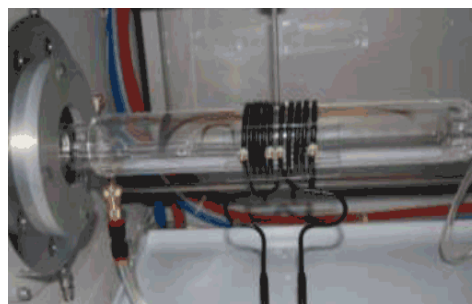
Our field proven system performance and solid customer base establishes First Nano as the clear choice in leading edge nanotechnology development equipment for the advanced research facility.

Call us at (631) 981-7081 to discuss a product solution for your project. We can also be reached at sales@firstnano.com or visit our website at <http://www.firstnano.com>

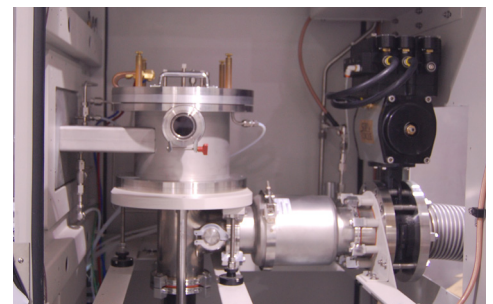
FACILITIES REQUIREMENTS

Electrical	208 V.A.C	3 Phase	40 – 60 AMP
Dimension	120" L	33" W	70" H
Exhaust		500 CFM	
Cooling Water	2 GPM	50-75 PSIG	
Pneumatic Supply	Clean Air or N ₂	80 PSIG	
Facility Nitrogen	20 SLPM	20 PSIG	
Process Gases	Customer specified		

* Note: Electrical varies with country; facilities requirements vary with system options. Consult Factory for details.



Horizontal Induction RF Heater



Vertical Resistance Heater/Chamber

First Nano, a division of CVD Equipment Corporation

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