CVD Equipment Corporation

enabling tomorrow's technologies™

EasyTube® 4000 Series

Plasma Enhanced Chemical Vapor Deposition System

firstnano

Standard Configuration

- CVD*WinPrC*™ based process control software for Real Time Process Control, Data Logging and Display, Recipe Generation and Editing
- Preprogrammed Process Recipes
- Temperatures up to 1100 °C
- Wafer Sizes 2" (ET4200)
  Wafer Sizes 4" (ET4300)
- Shower Head Gas Delivery
- DC Plasma: 1KW, 1000/500 Volt (ET4200)
  RF Plasma 600W @13.56 MHz (ET4300)
- Low Pressure Operation (100 mtorr – 700 torr), < 30 mtorr Base Pressure
- Cantilevered Automatic Substrate Loading/Unloading System
- 4 Mass Flow Controlled UHP Gas Lines
- Comprehensive Software and Hardware Safety Interlocks
- One (1) Year Warranty
- SEMI - S2/S8 and CE Certified

EasyTube® 4200

EasyTube® 4300

First Nano's EasyTube® 4000 Series is an advanced turnkey Plasma Enhanced Chemical Vapor Deposition process tool for a wide variety of nanomaterials and thin film. The system is optimized for controlled process development and user safety.

EasyTube® 4200 is a small footprint PECVD for wafer sizes up to 4", while the EasyTube® 4300 offers up to a 6" wafer and an optional loadlock.

Our modular platform houses most key process components and multiple advanced options to meet your specific process requirements. Options are field upgradable.

Designed to meet today's stringent safety standards, some of the safety features offered are alarms for low cabinet exhaust, automatic inert gas purge, integrated gas leak detection, exhaust gas dilution, low cooling water, high low / deviation on temperature / gas flow / pressure, end cap seal failure, exhaust line purge and more. Alarms displayed on the monitor are audibly announced, data logged and can be remotely transmitted. Depending on a user recipe configuration, upon an alarm occurance the system can either abort the recipe or switch to safe system shutdown mode.

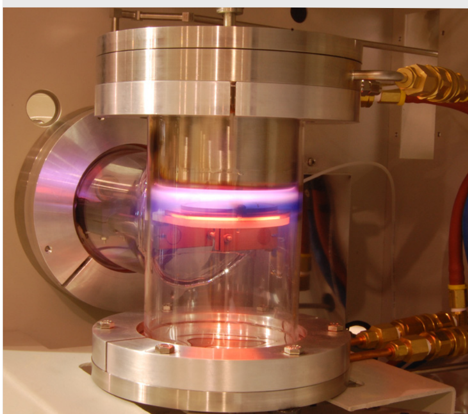
Operated through our CVD*WinPrC*™ process control software, it automatically logs data and graphically shows the time dependent values of user selected parameters. CVD*WinPrC*™ also allows users to load preprogrammed recipes, modify, check /create new recipes and view real time or saved execution data.

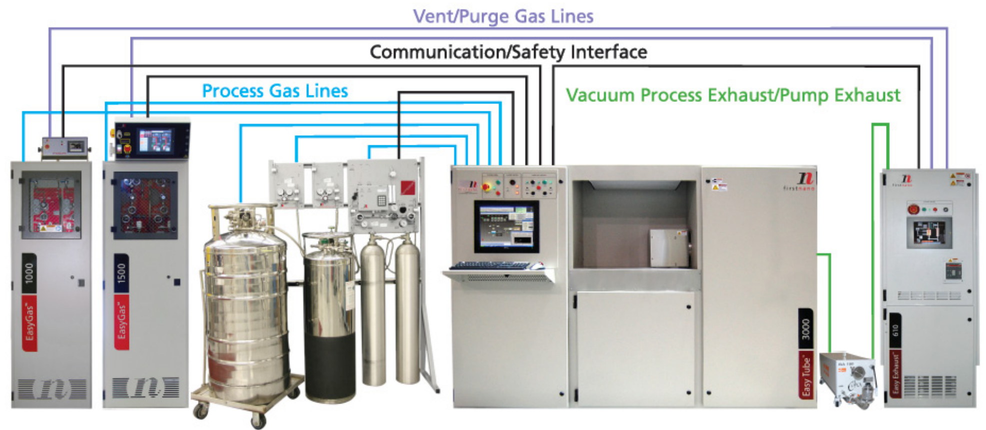
First Nano, a division of CVD Equipment Corporation

1860 Smithtown Ave. | Ronkonkoma, NY 11779 | Tel 631.981.7081 | Fax 631.981.7095 | www.firstnano.com | www.cvdequipment.com

Options

- Wafer Size 4”
  Wafer Size 6” (for ET4300 only)
- Loadlock (for ET4300 only)
- DC Plasma: 1KW, 1000/500 Volt
- Liquid Precursor Vapor Deliver Kit
- Ultra High Vacuum with Base Pressure < 10^{-6} torr
- Residual Gas Analyzer (RGA)
- Additional Mass Flow Controlled UHP Gas Lines
- Run/Vent: stabilizes gas flows (bypassing the Process Tube) before flowing into Process Tube
- Air to Water Heat Exchanger for Cooling Water
- EasyGas™ Hazardous Gas Cabinets
- EasyPanel™ Gas Panels for Argon, Nitrogen, Helium, Oxygen
- EasyExhaust™ Gas Conditioning System


Deposition Chamber



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.

EasyTube® 4000 Series is capable of a myriad of materials including:

- Carbon Nanotubes and Graphene
- Silicon Nanowire
- Thin Films: Amorphous Silicon, Polysilicon, Silicon Nitride and Silicon Dioxide

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 VAC	3 Phase	
Dimension	ET4200: 64” L ET4300: 96” L	30” W 33” W	60” H 70” H
Exhaust		ET4200: 300 CFM ET4300: 500 CFM	
Cooling Water	1 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.