

EasyTube® 6000 Multi-Tube Horizontal Furnace System

Batch processing of multiple wafers in separately configured reactors all-in-one



EasyTube® 6000 Four Tube Furnace System

The EasyTube® 6000 series multi-tube horizontal furnace systems are automatically controlled research units for batch processing of up to 50 wafers per run per tube (process dependent), in up to four separately configured process tubes.

Our ET6000 series systems are used for complementary metal oxide semiconductor (CMOS), photovoltaics (PV), micro electro mechanical systems (MEMS), and nano electro mechanical systems (NEMS) research to perform oxidation, annealing, diffusion, silicon oxide, and nitride deposition processes.

The systems are designed to meet today's safety standards for handling pyrophoric, corrosive, flammable, and toxic gases such as hydrogen, silane, germane, diborane, hydrogen chloride, and metal organic precursors.

Mounting Choices

Standard left-hand as shown, optional right-hand, bulkhead, or ballroom.

Atmospheric or Low Pressure

Process tubes are individually configured for atmospheric and/ or low pressure operation.

Cantilevered Loading System

Automatic cantilevered substrate loading mechanism with horizontal HEPA filtered laminar flow to minimize particle contamination during loading.

Cascade Temperature Control

Provides an accurate internal temperature profile with the responsiveness of external (furnace) temperature control. Each furnace is multi-zone for control of thermal profiles.

Innovative Modular Platform

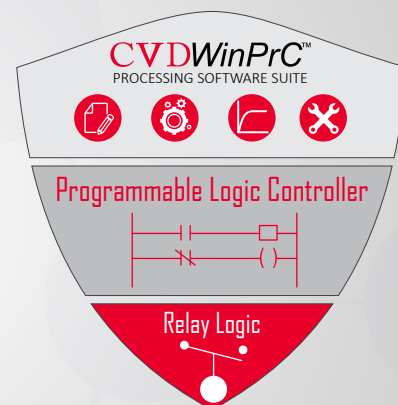
Enables a wide range of options that can be configured to meet your specific processing requirements. Most system options are also available as upgrades after install.

powered by **CVDWinPrC™**

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

Safety Protocols

The system has application-customized safety protocols embedded into relay logic, PLC, and our CVDWinPrC™ software.



Standard Configuration

- CVDWinPrC™ system control software for real time process control, data logging, and recipe editing
- Mounting choices: left hand, right hand, bulkhead, ballroom
- Up to 4 process tubes
- Cantilevered automatic substrate loading/unloading system
- Wafer sizes: 3 tube stack = up to 200 mm | 4 tube stack = up to 150 mm
- Up to 50 wafers per run, per tube (process dependent). Larger loads are available on request
- Proprietary real-time cascade process temperature control
- Mass flow controlled UHP gas lines
- Atmospheric and low pressure process configurations
- Differentially pumped double o-ring seals
- User settable warnings and alarms
- Application configured safety systems
- Comprehensive software and hardware safety interlocks
- 1 year warranty
- Semi - S2/S8 and CE compliant

Options

- Pyrogenic oxidation chamber
- Liquid/solid source vapor delivery kit
- Run/vent: stabilizes gas flows (bypassing the process tube) before flowing into process tube
- Bubbler liquid auto refill
- Air to water heat exchanger for cooling water (external)
- Residual gas analyzer
- EasyGas™ cabinets for hazardous gas and chemical delivery
- EasyPanel™ gas panels for argon, nitrogen, helium, oxygen
- EasyExhaust™ exhaust gas conditioning system (scrubber/pyrolyzer)

Processes

- Annealing
- Wet Oxide
- Dry Oxide
- High Temperature Oxide
- TEOS
- Low Temperature Silicon Dioxide (Doped or Undoped)
- Silicon Nitride
- Silicon Oxynitride
- Polysilicon (Doped or Undoped)
- Semi-Insulating Polycrystalline Silicon
- Amorphous Silicon Deposition

- Diffusion
- Boron Doping
- Phosphorus Doping
- BPSG, BSG and PSG

Applications

- CMOS
- PV
- MEMS
- NEMS

FirstNano® offers CVD processing systems with support equipment such as gas cabinets and exhaust gas conditioning systems. All major components from one vendor makes an easier and less costly system startup.

Call us at **+1 631-981-7081** to discuss a product solution for your project.
We can also be reached at **sales@firstnano.com** or visit our website.

CVD
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