



Advancing Plasma-Based Technologies

PLASMIONIQUE

À l'Avant-Garde des Technologies Plasma

EVAD Series Horizontal Tube Furnaces CVD, PECVD and ALD



- EVAD series CVD and PECVD Horizontal Tube Furnaces are highly versatile units allowing synthesis of various types of materials from gaseous, vapour, liquid and solid sources.
- Single and multi zone furnaces combined with FLOCON series gas, vapour and liquid flow management systems offer unparalleled flexibility.
- PLUME series ICP plasma sources could easily be integrated for conversion of system to a PECVD Furnace
- PLASMICON control system allows full automation of processes and it includes data acquisition system.
- The Users could save and recall data and process recipes.

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System Characteristics

Furnace	<ul style="list-style-type: none"> • Quartz or Stainless Steel Chambers with 1" to 8" diameter • Multi-zone heating capabilities • Heating to 1200 C with better than +/-0.5% accuracy. Option for higher temperature is available. Higher temperature options are available. • Independent PID control of each zone. • Programmable ramp rates for individual zone is included • Operation in atmospheric or low pressure regimes • Provisions for injection of gases, vapour, liquid aerosol in chamber • Manual or computer control transfer tray for samples and solid precursors into the chamber • Options include Rotary motion and Tilting of the chamber; customized design of the system frame structure, allowing manipulation of furnace on rail, pumping station interface, ETC.
Substrate/ Sample Mount	<ul style="list-style-type: none"> • User defined samples (size / shape), limited by tube diameter • Single or multiple sample holder • Option for loading / unloading through a glovebox.
Upgrade to Plasma-Assisted CVD (PACVD) reactor	<ul style="list-style-type: none"> • PLASMIONIQUE PLUME series Inductively Coupled Plasma source is included between the heating zone and the gas injection flange. • A 300 W RF generator with automatic matching network is included. Option for 600 W is also available. Power control to within +/- 1 W • Pulsed or continuous operation is included and programmable • Pulse frequency and duty cycle are set by the end user
Gas Management	<ul style="list-style-type: none"> • PLASMIONIQUE's FLOCON series gas, vapor and liquid flow management system is included • User defined number of Mass and Liquid Flow Controllers • Vaporizers or bubblers are also available • Multiple entry ports prevents interaction of gases outside the chamber
Process Control System	<ul style="list-style-type: none"> • LabView®-based monitoring and control software with Intuitive graphical user interface, real time data display and time stamped data-logging • Program mode for programming multi-step processes • PC-Windows OS included with 3 Y free software upgrade • Alarms, safety interlocks, emergency shut-off and spare interlocks • Options for integration of various diagnostics
Utility Requirements	<ul style="list-style-type: none"> • Electrical: Typically, 208/380V, 60/50Hz, 3-phase, 5-wire • Cooling water : If required, typically 1-4 gpm (system dependent) • Instrument air if required: 40-80 psig (3-5 bar) • Purge/vent gas, and Process gases, regulated