Your Partner in
Research and Innovations

Advancing Plasma-Based Technologies

PLASMIONIQUE

À l'Avant-Garde des Technologies Plasma

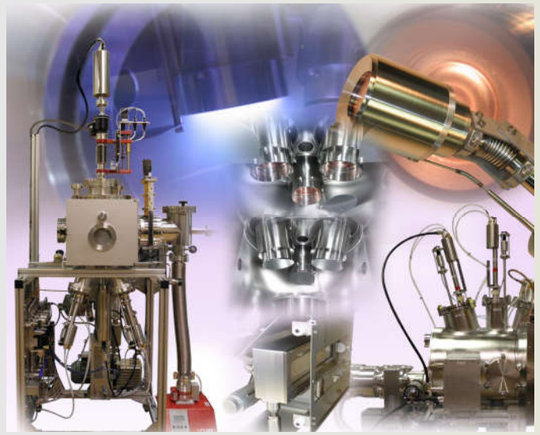
deptec
DEPOSITION TECHNOLOGY LTD

EVAD Series
Thermal Evaporation Systems

Controlled evaporation of metals, dielectrics and organic materials using E-beam, or various Resistive Heating technics are implemented. Low temperature Effusion cells with PID temperature control are used for deposition of organic molecules. Special features, such as electron impact ionization of organic and inorganic vapor, substrate heating or cooling and biasing are options available. All systems, large, compact or table-top include data acquisition and real time monitoring of process parameters and allow thickness control with high precision.

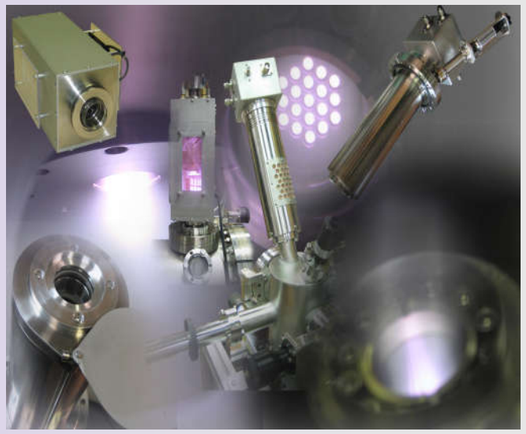
Compact & Tabletop Systems
Deposition and Plasma Reactors

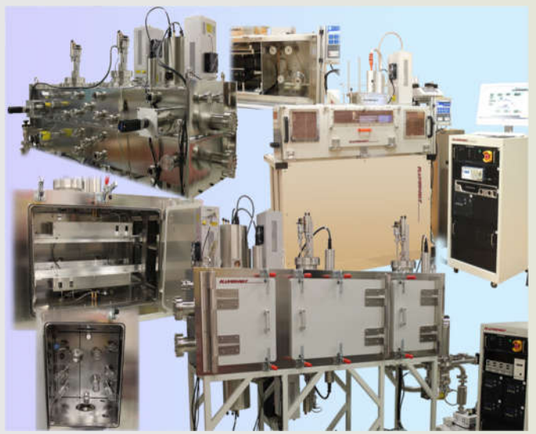
MAGNION, FLARION and **EVAD** series in compact or bench-top size significantly minimize the cost of R&D. Process recipes could be developed and the integrated data acquisition system displays and logs the data in real time.
The PVD units are configured as single or multi-cathode **Magnetron Sputtering** or **Thermal Deposition** units with evaporation boats and Mini K-Cells for organic and inorganic materials. Hybrid configurations are also offered. Gas management with upstream PID pressure control is standard. The option for integration in an environment controlled glovebox is also available.



PLUME Series
Plasma, Neutral and Ion Beam Sources

PLUME Series ICP, Neutral Atom and Ion sources are highly versatile and could be adapted to variety of applications. They are used as remote plasma sources or immersed plasma source for powder or in-line surface treatment. With beam extraction module inclusion current densities up to 6 mA/cm2 could be achieved. Application examples include plasma surface cleaning, surface functionalization, ion assisted deposition, plasma polymerization, plasma assisted ALD, PECVD , IBAD and variety of other applications. The customized design of the source enclosure facilitates its integration into any existing system.





FLARION Series Plasma
Deposition and Etching Reactors

The FLARION series plasma reactors are offered in various configuration for PECVD, RIE, DRIE and PE applications. The FLARION series plasma reactors could be offered with RF (ICP and CCP), Microwave Plasma or in Hybrid configuration, offering significant flexibility for independent control of ion density and their energies. Reactors offered with an ICP source could have an independent substrate biasing capabilities included. The turn-key system offers full process automation, and with data logging. Option to integrate plasma diagnostics for process control or monitoring is also available.

MAGNION Series
Magnetron Sputter Deposition Systems

The MAGNION Series sputter deposition systems are highly versatile Turn-Key systems with fully integrated control and data acquisition. Upgrade to Plasma assisted Reactive Deposition using PLUME series ICP sources is seamless. Substrate rotation, biasing, computer controlled axial motions are options available on all systems. All systems are customized and option for integration of various diagnostics is available.

ATMOS Series Roll to Roll
Deposition Systems
Vacuum and Atmospheric Pressure

The ATMOS-R2R series are highly versatile systems allowing surface treatment and deposition on flexible webs of various types of materials. Option for multi zone compartments within the same chamber allows multi-step and multi-layer treatment / deposition, while minimizing cross contamination issues. Various deposition or treatment sources could be integrated within the same process chamber. The FLOCON series gas, vapour and liquid flow management systems integrated in the system offer unparalleled flexibility. The PLASMICON control system allows full process automation and it includes data acquisition system. The Users could save and recall data and process recipes.

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FLOTEST Series
Test Stations for Sensor Development

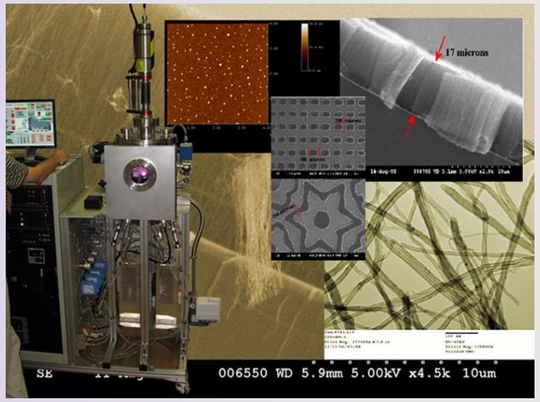
FLOTEST stations are custom designed for development of sensors for gases, and chemicals in vapour or liquid phase. The capability of fast modulation of flow allows measuring the response time of the sensors. The flow rates, humidity level, temperature and pressure inside the test chamber could be controlled. A data acquisition system is also included. All operation parameters and signals from the sensors are monitored graphically in real time. All data are saved and time stamped allowing their integration with other diagnostics. All test steps could be programed, saved and recalled.

PUPION series
PLASMA-Based Ion Implanters

PLASMIONIQUE's PUPION series, Plasma-Based Ion Implanters, are economical and versatile tools for shallow depth doping for nanoelectronics and photonics and Advanced surface engineering applications, including implantation of β-emitting medical grade radioisotopes. PUPION systems have demonstrated their ability for minimizing the potential radioactive contamination issues for implantation of radioisotopes. Variety of plasma excitation techniques could be offered, depending on required application. The systems are fully computer controlled and have integrated data acquisition system for real time process parameter monitoring as well as data logging.

NanoTube Synthesis Reactor
with in-situ catalyst Deposition

The Hybrid synthesis reactor integrates PVD and PECVD processes within a system with small foot print, allowing implementation of all steps for CNT and Graphene synthesis, without exposing the process to atmosphere. Steps could include, cleaning substrate, deposition of buffer layer and catalyst layer, followed by the synthesis step. If required, a pre/post treatment of samples could also be carried out. The reactor combines a PLUME series plasma source in a MAGNION series magnetrons deposition system. The system could also be used for conventional sputter deposition of single and multilayer thin films. Full automation capability and data acquisition of process parameters are included.



CVD, MOCVD and ALD Systems
with/without Plasma Assist

PLASMIONIQUE offers custom designed CVD, MOCVD, and ALD systems with and without plasma for R&D and small batch productions. The customized reactors include FLOCON series liquid, vapor and gas flow management systems. Various types of Plasma sources, including PLUME series, remote ICP, FLARION series volume ICP and MIRENIQUE series microwave plasma sources could be integrated for plasma assisted processes. Full computer controlled operation with a data acquisition system for process parameters and diagnostics is a standard feature.

GLAZE Series
Pulsed Laser Deposition Systems

GLAZE series Pulsed Laser Deposition Systems are designed for Advanced Thin Film Coating applications. The unique patent pending hybrid process developed and integrated in these systems, increases the efficiency of the deposition and significantly improves the quality of deposited coating. Substrate Heating to over 800 ˚C and the possibility of Reactive Deposition, as well as integration of magnetron cathodes for hybrid operation are among the standard features. The control system allows full process automation, including the laser. A data acquisition system for real time display of process parameter, data logging and recipe saving / recall is included. Option for *insitu* diagnostics is also available.

Horizontal CVD & PECVD Furnaces

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 for R&D as well as Industrial applications. Single and multi zone furnaces combined with FLOCON series gas, vapour and liquid flow management systems offer unparalleled flexibility. Systems with rotary motion having special grade stainless steel chambers for high temperature advance CVD/PECVD treatment of powders is also available. PLUME series ICP plasma sources could easily be integrated for conversion of system to a PECVD Furnace. The PLASMICON control system allows full automation and includes data acquisition system, allowing to save and recall data and process recipes.

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