Leading edge process tools

Oxford Instruments Plasma Technology provides a powerful range of stand-alone and clusterable high performance process modules, supporting a wide range of applications for etch and deposition.

Etching
- Inductively Coupled Plasma Etching (ICP)
- Deep Reactive Ion Etching (RIE, DRIE)
- Deep Silicon Etch (DSiE)
- Deep Reactive Ion Etching (RIBE)
- Reactive Ion Beam Etching (RIBE)

Deposition
- Chemical Vapour Deposition (CVD)
- Plasma Enhanced Chemical Vapour Deposition (PECVD)
- Inductively Coupled Plasma CVD (ICP CVD)
- Atomic Layer Deposition (ALD - PE & thermal)
- Diamond Like Carbon Deposition (DLC)
- Physical Vapour Deposition (PVD)
- Reactive Ion Beam Deposition (RIBD & IBID)

Our range of plasma etch tools can be fitted with a variety of substrate electrodes, enabling processes over a wide temperature range.

PlasmaPro® 100 etch tools
- Two etch electrodes available
- Wide temperature range electrode (-150°C to +400°C)
- Fluid controlled electrode fed by a recirculating chiller unit

Further etch platforms are available with up to 460mm table and large batch capabilities.

Cluster options
PlasmaPro platforms may be clustered to combine technologies and processes with cassette or single wafer leading options. Hexagonal or square transfer chamber configurations are available.

PlasmaPro® 80 etch tool
Offers versatile etch solutions with convenient open loading. This compact, smallfootprint system is easy to site and easy to scale, with no compromise on process quality. RIE, ICP and RIBE options are available.

Deep Silicon Etch
- Development of our deep silicon etch (DSiE) technology delivers industry leading processes and offers the ultimate in process flexibility.
- PlasmaPro® 100 Estrelas tool
  - Compatible with 50mm to 200mm substrates
  - Mechanical or electrostatic clamping
  - Fast-acting close coupled MFCs
  - Heated liners
  - Improved reproducibility
  - Improved mean filter between chambers (MTBC)
  - Sub-second Bosch switching times
  - Low exposed area (<1%) and point capability

SiO2 etch 100μm feature etched at 23μm/min 50nm lines, 500 nm deep nanostructure etched using the cryo process

Deep Reactive Ion Etching
- Plasma Pro platforms may be clustered to combine technologies and processes with cassette or single wafer leading options. Hexagonal or square transfer chamber configurations are available.
- PlasmaPro® 100 Pro Plasma etch tool
- Hexagonal or square wafer loading options.
- Two etch electrodes available
- Reactive Ion Beam Etching (RIBE), RIE, DRIE

Over 6,000 process recipes

Support options
- Upgrades offer process, productivity & cost reduction benefits
- Support contracts are tailored to customer needs
- Help desk support offers extensive product knowledge
- Training at our facility or yours
- Preventative maintenance
- Remedial site visits
- Spares and repairs through global hubs
- Specialist support

We know our customers have individual needs and can tailor our offering to suit requirements.

Contact us:
Tel: +44 (0) 1934 837000
Email: plasma@oxinst.com
For worldwide office information please visit our website
Ref: OIP/General/2016/01
**Laser bar facets**

**Infrared imaging**

**DEPOSITION**

Our versatile deposition tools cover a wide range of processes and produce high quality films.

**Plasma**

**100 deposition tools**

ICP CVD and PECVD electrodes are available for deposition over a wide temperature range.

**Plasma® 80 PECVD tool**

Provides high quality PECVD of silicon nitride and silicon dioxide for electronics, dielectric layers, passivation, and many other uses.

**Plasma® 400 magnetron sputter tool**

A high-performance, versatile sputtering tool. It can be configured for photonics, dielectric layers, passivation, and many other uses.

**Ion beam etch & deposition**

- IBE, RIBE, IBD, CAIBE, RIBD, IBSD, IASD

Ion beam etch offers maximum flexibility coupled with excellent uniformity and is suitable for a wide range of applications.

**NanoFab** tool

- Cold wall design with showerhead based uniform precursor delivery
- Remote plasma via ICP option
- Vacuum load lock for quick sample exchange
- Excellent temperature uniformity
- Optional liquid/solid source delivery system for growth of MoS2, MoSe2 and other TMDCs
- Variable sample sizes up to maximum 200mm wafers
- Multiview diagnostic port for diagnostics

**Nanoscale Growth**

Chemical Vapour Deposition (CVD) techniques form the workhorse for research on nanomaterials. The flexibility of this technique allows deposition down to atomic layers as well as thicker films. The Nanofab delivers high performance growth of nanomaterials with in situ catalyst activation and rigorous process control.

**Atomic Layer Deposition**

Remote plasma & thermal ALD

Atomic Layer Deposition (ALD) offers precisely controlled ultra-thin films for advanced applications on the nanometre scale, with conformal coating into high aspect ratio structures.

**FlexAl® tool**

- Remote plasma & thermal ALD in one flexible tool
- Automated 200mm load lock for process flexibility
- Clusterable for vacuum transport of substrates
- Cassette to cassette handling increases throughput

**FlexAL® tool**

- Open loaded thermal ALD tool with plasma option
- Field upgrade available for plasma option
- Small wafer pieces up to full 200mm wafers

**FlexAL® tool**

- Multiwafer mode
- Remote plasma & thermal ALD
- Field upgrade available for plasma option
- Small wafer pieces up to full 200mm wafers

Further deposition platforms are available with up to 460mm table and large batch capabilities.

**Oxford Instruments Plasma Technology**

Systems & Process Solutions for Etch, Deposition & Growth

- Optoelectronics
- Sensors
- Discrete Devices
- Nanotechnology

Providing leading edge tools and processes to key markets worldwide.