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Nanoquest I Ion Beam System

The NQI is an ideal R&D platform for Ion Beam Etch or Sputter Deposition in the same system. The unique system and substrate stage design allows for high-rate substrate cooling during etch or deposition. The system will etch single wafers of 50, 75 and 100 mm and can accommodate 3, 5 or 8 cm Kaufman gridded ion sources.

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E-mail: sales@norcaluk.com

Coming Soon – VapourPhase Ω

VapourPhase Ω is a new advanced mounting system for resistive evaporation providing a real, low-cost alternative to electron beam technology. A high current, in vacuo switch allows evaporation of up to four materials while individual source baffles reduce cross contamination, and water cooling reduces surface degassing, both improving efficiency. Mounted on an ISO100 flange (other sizes/types on request) with on-board 3 KW supply (12 A/270 V remote feed PSU), the system has 400 A/8 V and 800 A/4 V output ranges.

Oxford Vacuum Science
39 South Street, Middle Barton
Oxfordshire OX7 7BU, UK
Tel: +44 (0)1869 349161
E-mail: ovs@oxford-vacuum.com

Advanced Endpoint Detector

Hiden Analytical introduce the new IMP Series Endpoint Probes for ion beam etch processing, enabling etch endpoint determinations to a state-of-the-art 2.5 Angstrom for multiple species – in real time. Endpoints are routinely and repetitively identified for layers to 10 Angstrom – just 4 atoms – thick, and layers masked to 99%. Inter-layer diffusivity is positively established.

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ClassOne Equipment is a leading supplier of reconditioned semiconductor process equipment for applications ranging from research to high volume manufacturing. We specialize in fabrication and metrology equipment including wet benches, mask aligners, photoresist coaters, lithography tracks, etchers, polishers, and more. Our reconditioning process delivers a warranted and approved system to your facility while achieving up to 65% cost savings. To browse equipment or find out more about us visit our website.

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Bench-Top Furnaces

Hitech Furnaces offers an extensive range of Diffusion Furnace Systems for laboratory, pilot plant and full production applications, covering wafer sizes from 2” to 200mm. Models range from bench-top single tube units as shown in the photograph to four-stack production units. We also specialise in quality replacement elements, tube adaptors etc for existing plant.

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**Spectra-G: Abatement for Nitride MOCVD**

The Spectra-G system provides reliable, high-performance and cost-effective abatement of hazardous gases produced from nitride-based MOCVD processes that use metal organics (TmGa, TmAl and TmIn) and high flows of hydrogen (H₂) and ammonia (NH₃). Spectra-G displays a 4-stage combustion, an effective powder handling system and an intuitive control display panel.

BOC Edwards
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E-mail: info@bocedwards.com

**Nanoquest II Load Lock Ion Beam Etch**

The NQII is designed for clean room operation and is SEMI S2 certified. The etch module locates behind a clean room wall for ease of servicing. The NQII is designed for 100 and 150mm single wafer etch and can accommodate 14, 16, or 22 cm Kaufman R.F. gridded ion sources.

Intlvac
Dino Deligiannis
Tel: +1 905 873 0166
E-mail: dino@intlvac.com

**Non-Contact Resistivity Measurements**

The COREMA-WT from SemiMap Scientific Instruments GmbH provides non-destructive resistivity mapping of semi-insulating SiC, GaN, GaAs, InP and Cd(Zn)Te substrates. The system measures wafers from 50mm – 200mm in diameter with resistivities of 1E5 – 1E12 Ωcm. It quickly outputs a high resolution topographic resistivity image which contains thousands of absolute data points. The full wafer topogram graphically shows fluctuations in the per cent range with a lateral resolution better than 1 mm.

Hologenix, Inc
15301 Connector Lane
Huntington Beach
CA 92649, USA
Tel: +1 714 903 5999
E-mail: sales@hologenix.com

**InfinitiCell 2000 for MBE**

The InfinitiCell 2000 is the world’s first self-calibrating metal flux evaporation source for Molecular Beam Epitaxy (MBE) and related vacuum metal deposition. The new patent-pending InfinitiCell design provides reproducible growth rates and alloy compositions with ±0.1% accuracy using our exclusive liquid metal pump with level sensor feedback control. The low mass evaporator also enables rapid thermal flux ramping (up to ±20 °C/min) for precision graded alloy profiles or step changes in alloy compositions.

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Berkeley Heights, NJ 07922
USA (contact: Roger Malik)
Tel: +1 908 790 9000
Fax: +1 908 790 0800
E-mail: rjm@rjmsemi.com

**Gentle Laser Dicing System: LDS 300**

The LDS 300 is Synova’s newest laser dicing system based on its innovative Laser MicroJet™ technology. Designed to provide chipmakers with a high-speed tool using a large working area (up to 300-mm wafers), the LDS 300 allows damage- and contamination-free dicing of silicon and compound semiconductor material. Combining water and laser provides outstanding results, especially in processing brittle materials such as GaAs. No toxic product is emitted during machining and chips show high fracture strength.

Synova SA
Tel: +41 21 694 3500
E-mail: info@synova.ch

**LEM: Laser Interferometric Camera**

HORIBA Jobin Yvon has released the new LEM camera to replace its previous SOFIE DigiLem. The LEM allows accurate in-situ trench depth monitoring of a wide range of applications on any plasma etcher with direct top view. The LEM includes a state-of-the-art Windows™-based analysis software and provides a real-time digital image of the sample.

HORIBA Jobin Yvon Inc
3880 Park Avenue, Edison
NJ 08820-3012, USA
Tel: +1 732 494 8660
E-mail: info@jobinyvon.com
High-throughput Etch Processes for HB LEDs

Oxford Instruments has developed its etching processes for key process points within HB LED production, available for both batch and single-wafer approaches.

Recognising the need for high-throughput processes matched by high device yield, the increased etch batch sizes now run to an industry-leading twenty 2” wafers for GaN, AlGaN and related materials etching. For production companies making the transition to larger diameter wafers, these equate to eight 3” or four 4” wafers. The processes run on the Plasmalab® System133 tool, and offer superb etch uniformity and repeatability within wafer, within batch and across batches. The same large batch sizes are also realised in substrate preparation etch processes, particularly for sapphire and SiC.

With the increasing availability of 4” substrate material for HB LEDs, alternative single-wafer cassette-to-cassette approaches are being explored by a number of manufacturers, and Oxford Instruments’ processes equally support these on the Plasmalab® System100 platform.

The Plasmalab® process tools offer these capabilities in a format which can be stand-alone, cassette-loading for multiple repeat wafer operations or clustered with multiples of the same or other tools.

The GaN-related and substrate etch processes are complemented by hard mask and passivation processes on the Plasmalab®800Plus tool, with batch capacity of forty 2” wafers (or equivalent 3” or 4”) for silicon dioxide and nitride deposition and etching.

As with all its processes and tools, Oxford Instruments offers service and process support through its ProServe™ global customer support network.

Oxford Instruments Plasma Technology
North End, Yatton, Bristol BS49 4AP, UK
Tel: +44 (0)1934 837000
Toll free USA & Canada: +1 800 447 4717
E-mail: plasma.technology@oxinst.co.uk
Website: www.oxford-instruments.com
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www.german-my-chip.com

### Nanoquest III Multi-Wafer Etch System

The NQII Ion Beam Etch System will perform automated etch of wafers using a water-cooled planetary stage. High cooling rates are achieved by bonding wafers directly to rotating, cooled substrate holders. The system will etch 3 x 100 mm, or 3 x 150 mm wafers using a 22cm Kaufman, R.F. gridded ion source.

**Inttvac**  
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### Tropel® Grazing Incidence Interferometers

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