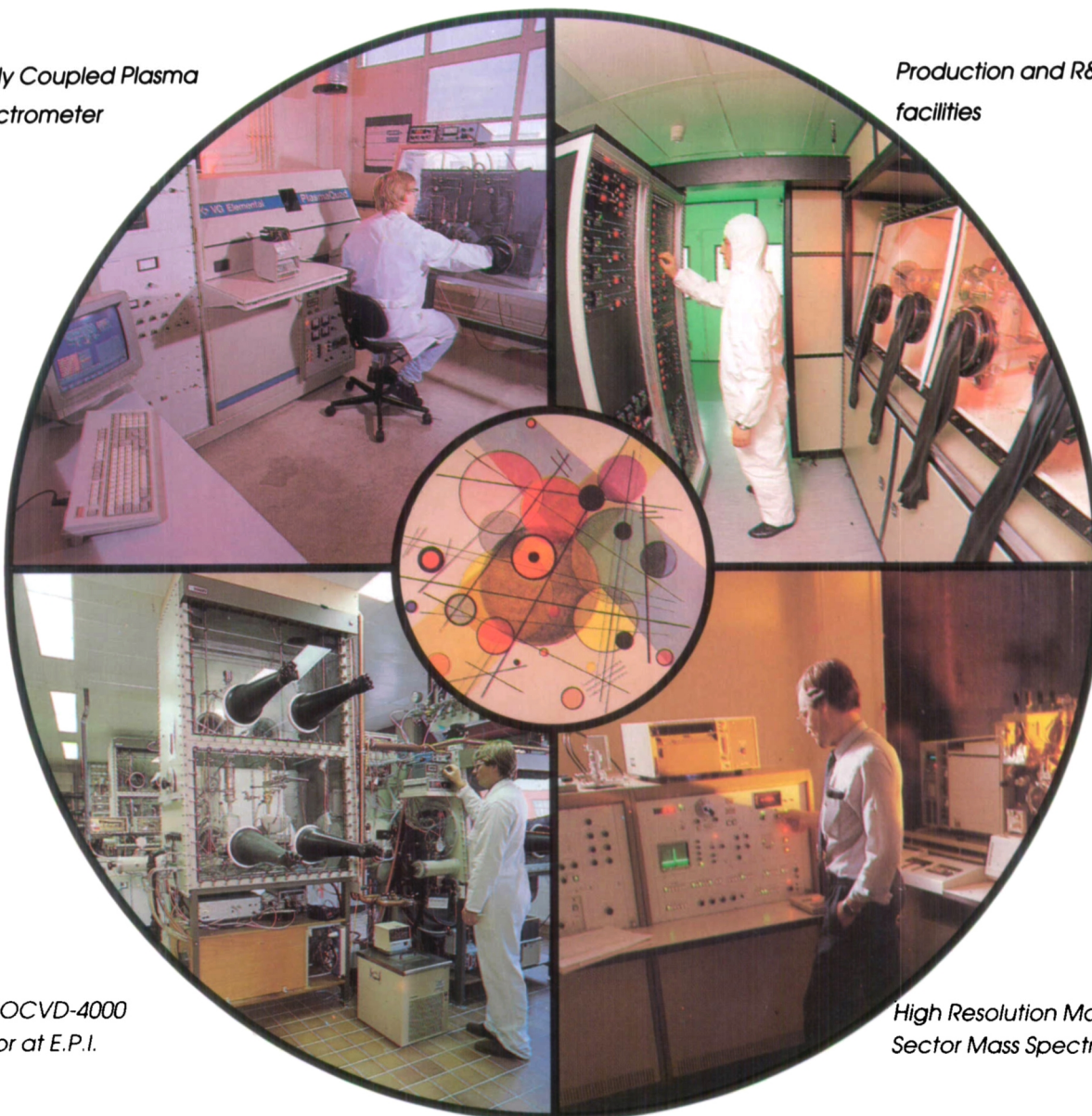


Organometallics for Electronics

*Inductively Coupled Plasma
Mass Spectrometer*

*Production and R&D
facilities*



*CVT-MOCVD-4000
Reactor at E.P.I.*

*High Resolution Magnetic
Sector Mass Spectrometer*

Organometallics produced and analysed by Billiton Precursors B.V.* are tested by Epitaxial Products International Ltd. ensuring products of consistent high performance. A Certificate of Analysis and a Certificate of Performance are supplied with each batch.

- TMG** Typical 77K mobility for GaAs (100 mbar, 650°C, V/III=110): $>120.000 \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$
- TMA** Typical 10K FWHM of Bound Exciton for $\text{Al}_{0.25}\text{Ga}_{0.75}\text{As}$ (1000 mbar, 750°C, V/III=36): $<5 \text{ meV}$
 Typical 5K FWHM of Bound Exciton for $\text{Al}_{0.10}\text{Ga}_{0.90}\text{As}$ (1000 mbar, 800°C, V/III=15): $<4 \text{ meV}$
- TMI** To follow shortly



Billiton Precursors B.V.

Billiton Precursors B.V.*, Dr R.G. Lythe, P.O. Box 639, (Westervoortsedijk 67d),
6800 AP Arnhem, **The Netherlands**.

Tel (Int'l)31-85-654882. Fax (Int'l)31-85-654664. Telex 75026 bires nl

Billiton Metals Japan K.K.*, Mr H. Neriishi, Kasumigaseki Bldg 29f,
2-5, Kasumigaseki 3-chome, Chiyoda-Ku, Tokyo 100, **Japan**.
Tel (Int'l)81-3-581-6303. Fax (Int'l)81-3-592-0903. Telex j22373, j22901.

** A company of the Royal Dutch/Shell Group of Companies*

IN R&D, THE FUTURE BELONGS TO THE FLEXIBLE



▲ A typical UHV internal arrangement for co-sputtering.

▼ Model 6000 modular UHV deposition system.

For as much as superconductivity is changing the future, there will also be changes in the projects you're working on.

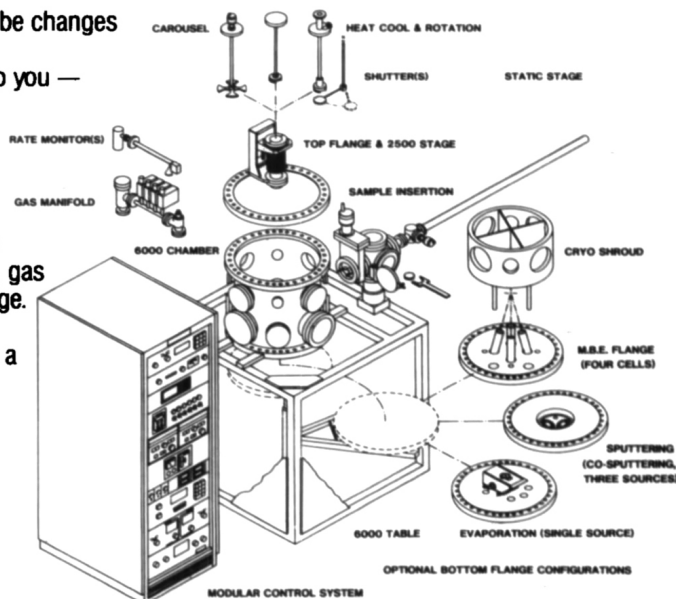
That means the equipment you buy today should be designed to help you — not limit you — in the future.

If you decide on UHV's modular approach to deposition and sample processing, you can stay flexible enough to handle changes as they occur in superconducting, semiconducting, optical, diamond or any other rapidly developing area of materials research and development.

A UHV system begins with the basics, a standardized ultra-clean, ultra-low pressure 5×10^{-11} Torr vacuum chamber (two sizes), pumps, vacuum gauges, gas controls, electrical distribution system, and a versatile sample manipulation stage.

To this, you can add (now or later) any one of dozens of options, including RF-DC sputtering, evaporation, MBE, ECR, ion sputtering or others, to create a unique R&D tool.

Write or call for UHV's complete 1989 catalog and price list. Let UHV help you stay flexible for the future, at an affordable price.



Ultra High Vacuum Instruments Inc.
Office box 12, 1951 Hamburg Turnpike
Buffalo, N.Y. 14218 (716) 833-7534

BUILDING EQUIPMENT FOR THE WORLD'S LEADING SCIENTISTS AND ENGINEERS.