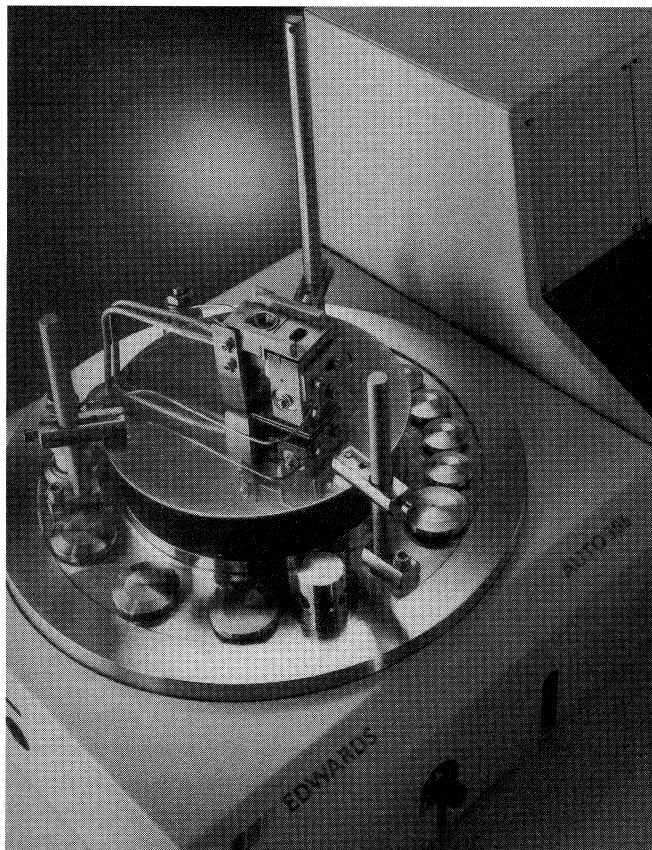


## AUTO 306 ELECTRON BEAM SYSTEM FOR RESEARCH AND DEVELOPMENT

### Electron beam evaporation

BOC Edwards Auto 306 electron beam evaporation systems can deposit ultra pure films of materials with high melting points, and other materials that are difficult to deposit by resistance evaporation.

Very fast deposition rates can be achieved using electron beam evaporation. Electron beam sources can hold more evaporant than resistance sources which allows the deposition of thick films and multiple coatings before the need to refill the electron beam source.



EB1 1 cm<sup>3</sup> electron beam source fitted to an Auto 306.

### Multi-process capability

BOC Edwards have designed a range of compact electron beam sources with all of the features normally only found in large, expensive industrial coating systems.

Because of their compact size they can be installed in the Auto 306 together with a wide range of other thin film process accessories. Some of the other accessories that can be installed in the Auto 306 with electron beam evaporation include those for: resistance evaporation; magnetron sputtering; glow discharge cleaning; and substrate heating.

### Excellent deposition control

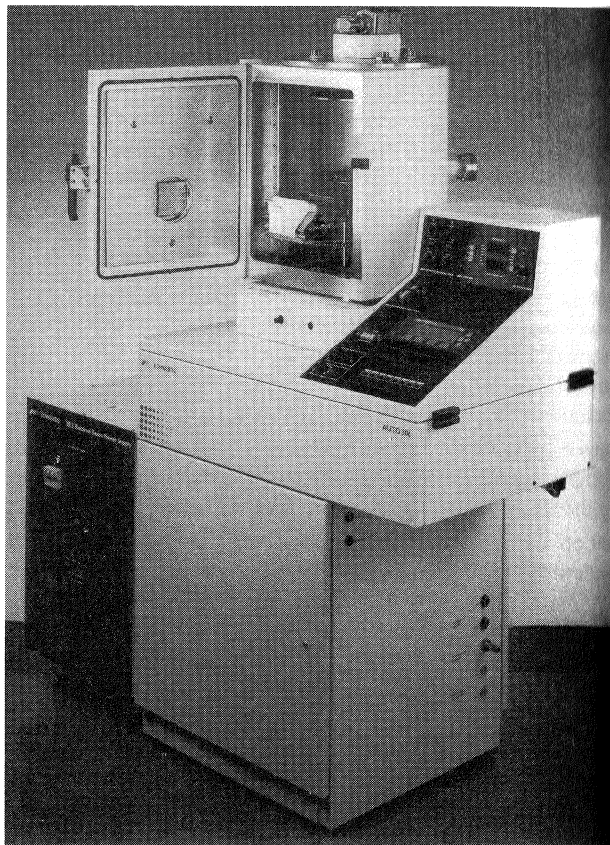
The high degree of control possible with electron beam sources enables materials to be evaporated with constant deposition rate control.

The Auto 306 can be supplied with quartz crystal deposition controllers that can be linked to the vacuum controller to provide fully automatic electron beam process control.

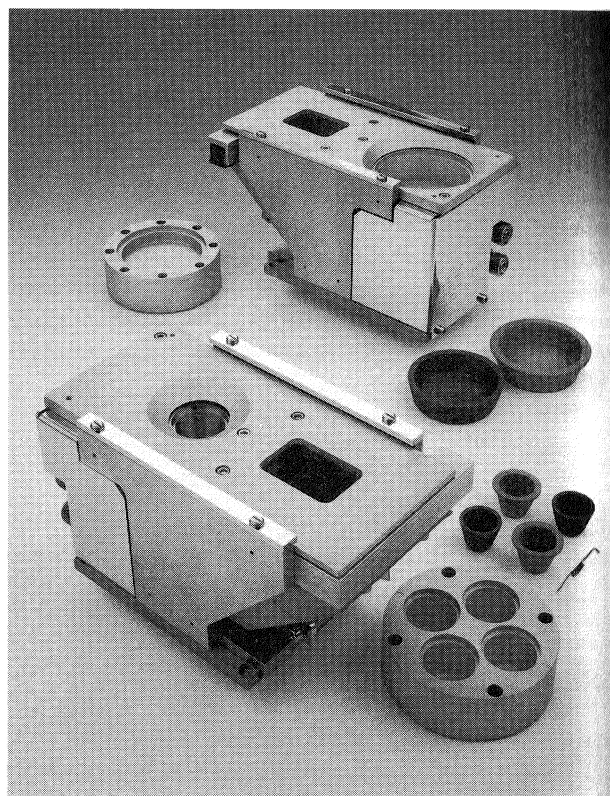
To provide maximum research flexibility, BOC Edwards electron beam systems have comprehensive manual controls for the electron beam source, X-Y beam sweep and turret indexing.

### Safety interlocks

To ensure operator safety a comprehensive interlock system prevents the electron beam source from being operated if an unsafe condition exists. Operation is disabled unless all Auto 306 doors and covers are closed and there is a maximum pressure of  $1 \times 10^{-4}$  mbar in the chamber.



EB3 electron beam source with four 4 cm<sup>3</sup> crucibles fitted in an FL400 front-loading vacuum chamber. The electron beam source is positioned to give maximum film thickness uniformity onto rotating substrates.



Electron beam source with multiple turret options.