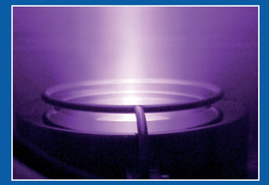
and...
all with Evatec process know how

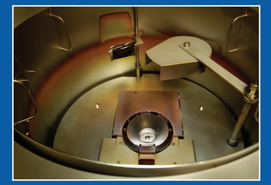
From simple Best Known Methods for evaporation of individual materials (BKMs) to process specifications with uniformity calculations and system throughputs, Evatec offers know how to help you achieve optimised layer results with your EBS hardware.

But delivery of the E Gun is just the start, and Evatec delivers complete source and process control solutions for a wide range of materials and applications.

Broadband Optical Monitoring for process control



Plasma sources for enhanced layer properties

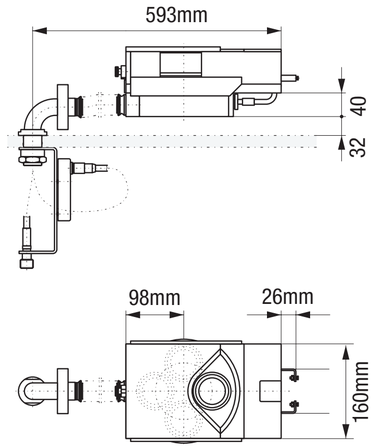


Extended throw geometries for SAW

Metals Oxides **SAW** **LEDs** **MEMS**
Power Devices **Optics** Projection
Display **Photovoltaics** **Sensors**

evatec process systems

Custom Crucible Options
Pot crucible, volume according to request
4, 6, 8 and 16 pocket variants according to request



About Evatec

Evatec offers complete solutions for thin film deposition and etch in the optical and semiconductor markets. Evatec engineers are able to offer practical production advice from R&D to prototyping and mass production. We recognize that no single technique offers the answer to all problems. With a technology portfolio including standard and enhanced evaporation as well as sputter, we are ready to offer sampling services and custom engineering to meet out customers individual needs.

We provide sales and service through our global network of local offices. For more information visit us at www.evatecnet.com or contact our head office.

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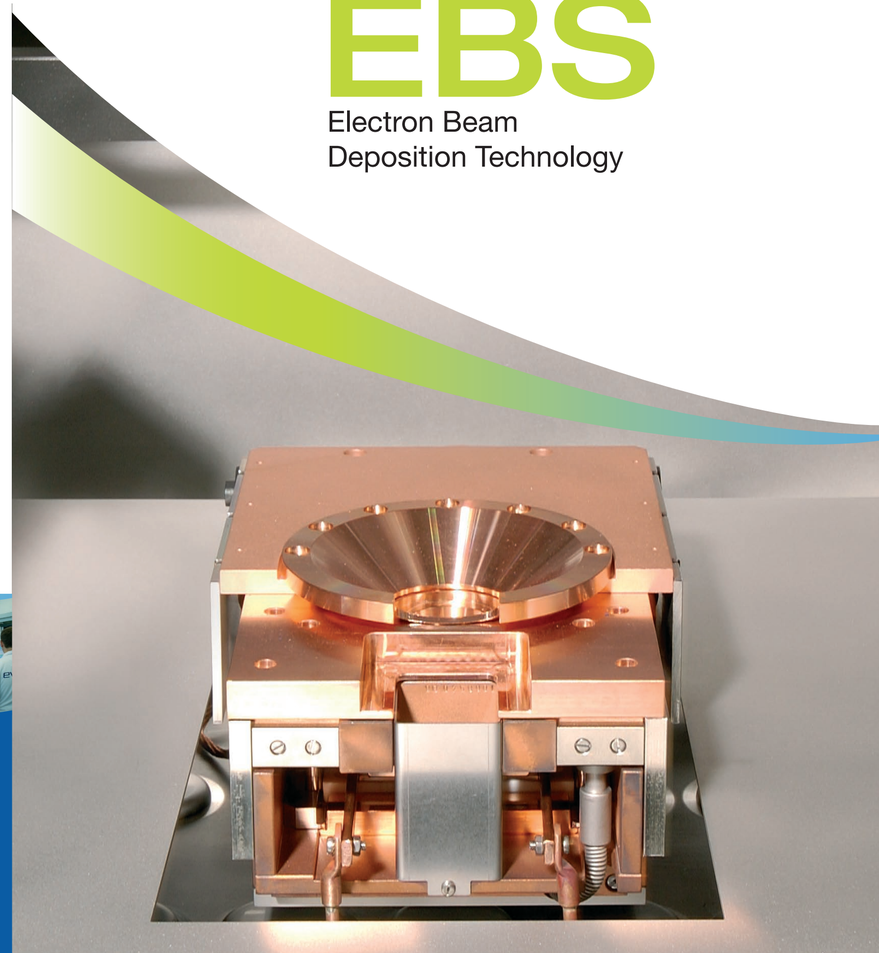
evatec process systems

EBS
Electron Beam Deposition Technology



E Gun

An Evatec core competence

Electron Beam Gun Deposition is the most common deposition technology of batch evaporation systems used in the industrial production of cutting edge optical and semiconductor devices. The ability to change source configuration and materials quickly combined with its suitability for the widest range of materials continue to make it the most economical method where flexibility is a “must”.

As home of the Balzers BAK, Evatec has the benefit of 50 years experience delivering evaporation solutions, which number over 1200 worldwide. From the simple low cost thermal sources first developed in the 1960s, right through to today’s custom electron beam gun and effusion cell solutions for complex alloy and co-deposition, robust industrial design is always at the heart of our thinking. Our current EBS Electron Beam Gun hardware solutions are in use 24/7 around the globe.

Benefits of Electron Beam Gun Evaporation Technology

- Versatile
- Complex materials
- Multi material stacks
- Co-deposition
- Curved substrate geometries
- Plasma assist for enhanced layers

EBS

Better by design

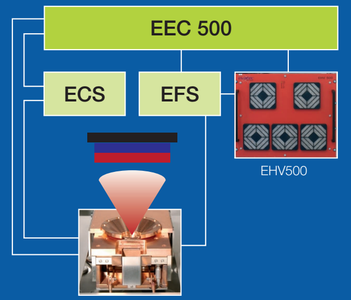
EBS Design Features

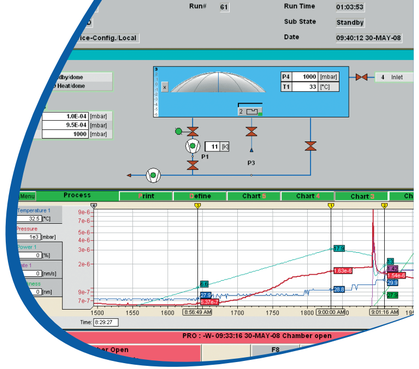
- High rates
- Robust for 24/7 production
- Easy to maintain
- DIN EN ISO 9001 certified
- CE/UL compliant

Our gun bodies are designed for deposition at high rates in demanding production environments and driven by the latest generation EEC500 control unit and EHV500 10KV solid state power supplies. The ECS Deflector Coil Power Supply and EFS Filament Current Power Supply complete the package.

In the case of multi gun systems, each source has its own Deflector Coil and Filament supplies but one EHV500 can power up to three sources and multi source and master / slave operation modes for the EEC allow it to control different source types and quantities. Our systems are engineered to control not only the latest generation gun bodies but also the robust ESQ100 series gun bodies which remain industry favourites for many optical and semiconductor applications. Custom retrofit packages of control systems and gun bodies are available to give your existing BAK a new lease of life.

Integration via Ethernet (HSMS SECS Protocol) allows the user full access and control of the EEC from the Khan system and Process Controller.

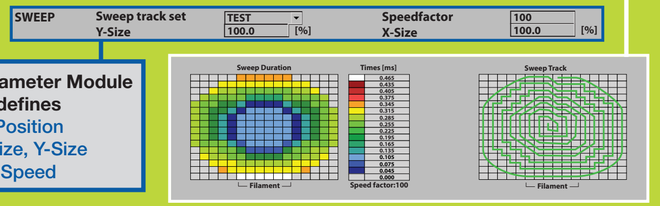




EBS500

Supreme process control at your finger tips

Sweep Track Module defines
Dwell times
Sweep track



EEC Parameter Module defines
Position
X-size, Y-Size
Speed

The ESQ212 series gun bodies developed for the EBS500 permit full two dimensional beam sweep control over fixed and rotating crucibles in a 16 X 16 spot track grid. Sweep track modules stored within the EEC500 control sweep path as well as dwell times for each spot in the grid. Additional “Parameter Modules’ control beam shape/ focus, position and speed giving the user complete freedom to define material dependent parameter sets. A common base plate with direct water cooling allows simple exchange between different crucible arrangements adding further flexibility.

Full integration within Evatec’s Khan control platform makes for simple selection of parameter sets by application engineers and operators alike. Simultaneous source control for co deposition and continuous source fed systems for are just a few of the custom hardware solutions available to meet your production requirements.