



LLS EVO II

The flexible load lock platform
for deposition of metals,
TCOs and magnetic films

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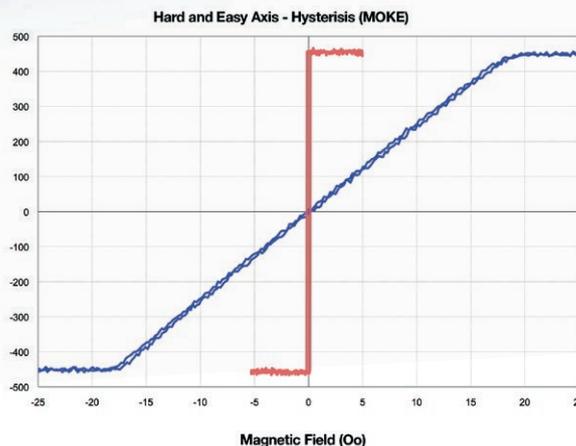
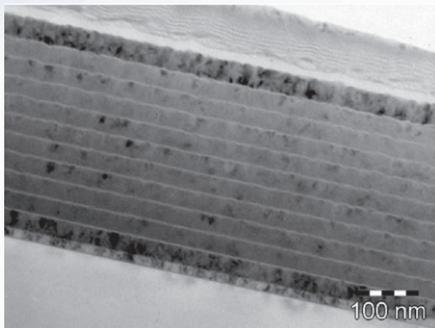
MAIN FEATURES

- High throughput deposition of metals, TCOs and aligned magnetic films
- Flexibility for single and co sputter for alloys or continuous phasing
- Load-lock chamber with additional degas, heating and etch capability
- Substrate sizes up to 200x230mm
- Accelerated pumping for load lock and main chamber

Full of new features to enhance throughput

The LLS EVO II is the flexible load lock platform for deposition of metals, TCOs and magnetic films with a whole host of new features that enhance productivity and reduce materials consumption. Whether its new oval cathode technology for reduced materials costs and particles, next generation magnet systems for enhanced target life, or the new high speed pumping solution, the new LLS EVO II platform raises yields and lowers production costs.

Typical nano-crystalline micro-structure of a laminated soft-magnetic layer stack, 10x (30nm NiFe₂₁ + 2nm C) on 20nm Ti seed, with a poly-crystalline capping layer



Magnetization loops in easy and hard axis of a laminated 1 μ m CoTaZr film (12x (80nm CTZ/2nmAl₂O₃)). Hc = 0.15 Oe, Hk = 18 Oe. On 8" substrates: Alignment of easy axis better than $\pm 2^\circ$, Uniformity of Hk $\pm 2.5\%$

Take a closer look at LLS process capabilities

- Cost-effective deposition of soft magnetic multilayers (e.g. NiFe, CoFeB, CTZ, laminated by AlN, Al₂O₃, SiO₂), anisotropy axis orientation by aligning field and/or collimator technologies
- High throughput metal and alloy stack desposition including Pt, Au, AuSn, AuZn, WTi, NiTi, Al, Ag, Ti, Ni, Cr
- Co deposition from up to three sources for alloys or continuous phasing of materials
- Load-lock chamber with degassing. Heating and RF or ion beam etch cleaning capabilities
- Long-life-Cathodes for high Ms materials, about 1mm total magnetic film thickness on 8" wafers per target



Source Technology - Higher rates and better uniformities than ever

Install up to 5 vertical cathodes in DC, RF, mixed DC/RF or Pulsed DC mode. Parallel operation for up to 3 sources enables higher rates and allows mixtures or continuous phasing of different materials. Ask us about the following source options.

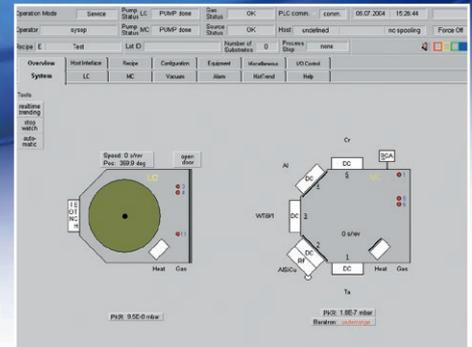
- New oval cathode technology for reduced materials cost and even lower particle counts
- "High Energy Cathode" technology for improved throughput in high rate metallisation processes (Al & Al alloys)
- High performance magnet systems for extended life in sputter of both magnetic and non magnetic materials



Substrate Handling - The choice is yours

Whether you choose full face deposition, shadow masking or customised edge exclusion, LLS can be configured for either manual load or fully automatic cassette to cassette handling.

- Manual loading for complete or mixed batches of substrate sizes of 2,3,4,5,6, and 8 inch. Change configuration of substrate sizes in just a few minutes
- Batch processing of substrates up to maximum size of 200x230mm
- 6 axis automated robot solution with cassette buffer, flat/notch aligner and bar code reader



Platform Control - Keeping you informed

LLS EVO II runs on the proven Windows™ 7 based graphical user interface displaying system status and trends, tracking and logging process information, managing alarms and handling recipes. System diagnostics including data logging, run reports including RGA data and 'RAID 1' mirroring backup all comes as standard. LLS EVO II complies with SECS/ GEM interface protocols and supports the drive to delivering new standards in environmental control reporting media consumption.

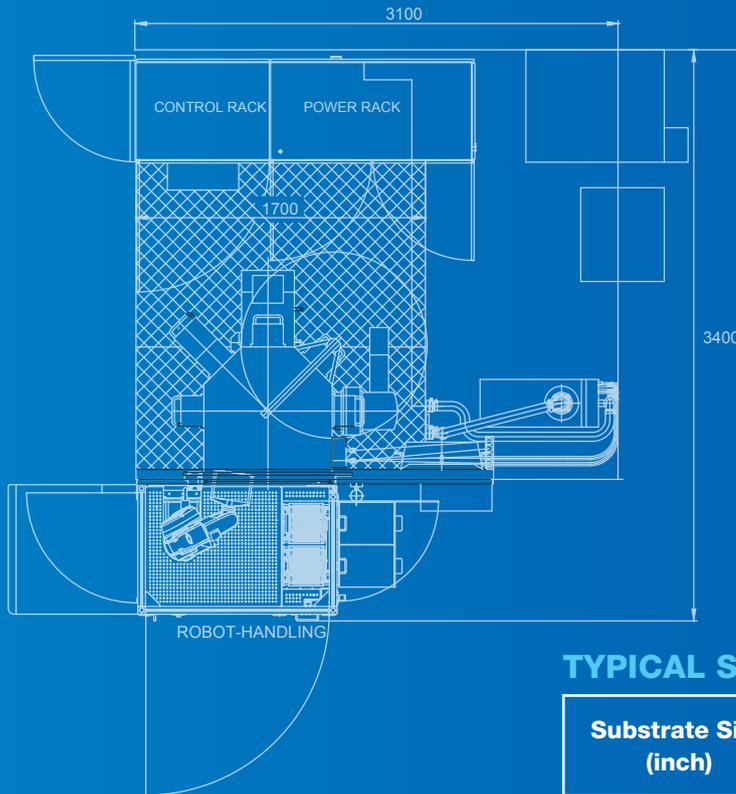
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Platform summary

- Substrate sizes up to 200mm x 230mm
- Single or mixed substrate size handling
- Manual or automated cassette loading

TYPICAL LAYOUT



TYPICAL SYSTEM CAPACITY PER RUN

Substrate Size (inch)	Capacity (pcs)	Maximum substrate thickness (mm)
2	132	16
3	72	14.5
4	36	13
5	30	11
6	12	8.5
8	9	1.3

ABOUT EVATEC

Evatec offers complete solutions for thin film deposition and etch in the Advanced Packaging, Power Devices, MEMS, Wireless Communication, Optoelectronics and Photonics markets.

Our technology portfolio includes a range of advanced sputter technologies, plasma deposition & etch as well as standard and enhanced evaporation.

Our team is ready to offer process advice, sampling services and custom engineering to meet our customers individual needs in platforms from R&D to prototyping and true mass production.

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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