



PRESS RELEASE

Pressemitteilung

LEYBOLD OPTICS OPTATEC 2010: LION 300, the new large ECWR – Ion Source for precise and low loss coatings for large areas

LEYBOLD OPTICS (LO) is one of the World's leading manufacturers of high – performance coating systems in the fields of precision optics applications. At the OPTATEC - the International Trade Fair for Future Optical Technologies, Components, Systems and Manufacturing in Frankfurt - the company from Alzenau introduces its new product, the LION 300 ECWR – Ion Source, to the precision optics market.

The new LION 300 RF ion source is based on the Electron Cyclotron Wave Resonance principle (ECWR). The source is completely integrated into LO's control system "OptiControl", which provides all the benefits of a modern machine control system. The source is designed to allow easy maintenance and to have low operating costs in production. The only consumable part is the single grid mesh, which needs to be exchanged regularly. The source is dedicated for our large coating systems the SYRUSpro 1350 and SYRUSpro 1510 to allow the production with high layer quality on large scale.

Excellent layer qualities and various coating processes and designs can be realised in VIS - and NIR – spectral range for example laser coatings, polarisation beam splitter, Narrow Band Pass filters, UV-IR cut filters and more. Coatings can be undertaken on mineral glass as well on plastic substrates.

With the LION 300 – source high refractive indices and excellent uniformity over large substrate holder areas can be achieved. The LION 300 – source enables the achievement of significant low losses and low scattering. One excellent example is an UV – IR – cut filter with AR – coating achieving 99 % - average transmission over the visible spectral range. Due to the stable and controlled operation of the LION – source even difficult filter specifications can be performed in production. This is especially possible in combination with in situ optical monitoring system, our OMS 5000 with direct measurement on the calotte.

The LION 300 ion source is designed to be operated with various gases like oxygen and mixtures of oxygen and argon. Using a single grid allows extraction of high current density without the limitations typical for 3 – grid sources, thus a total ion current of up to 3 A can be achieved. To use a neutraliser is not necessary, because from the single grid a quasi – neutral beam is extracted. The shape of the grid can be adjusted to meet excellent uniformity of ion current, utilising this we achieve excellent uniformity of the refractive index over a large substrate holder.





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Leybold Optics offers a broad portfolio on coating systems for precision optics application. Our proven SYRUSpro family with chamber sizes from 700 mm up to 1500 mm can be adapted to production requirements for small size and large scale mass production, with uncompromised precision, achieved with the in situ direct monitoring on the calotte OMS 5000 and the APSpro high power plasma source for dense and shift free coatings.

Sputtering in optical coatings technology starts to play a more dominant role. The Helios sputtering system for 4 inch substrates offers an uncompromised accuracy in optical coatings. And on a larger scale the Heliospro for 8 inch substrates, also equipped with OMS 5000 makes it possible to achieve filter specifications now in production, which have been possible before only in R&D.

In hall 3.0 at booth G 40, interested visitors will find Leybold Optics production proved systems as well as the latest developments for the benefit of the precision optics industry.

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