dr. schenk
INSIDE
Newsletter
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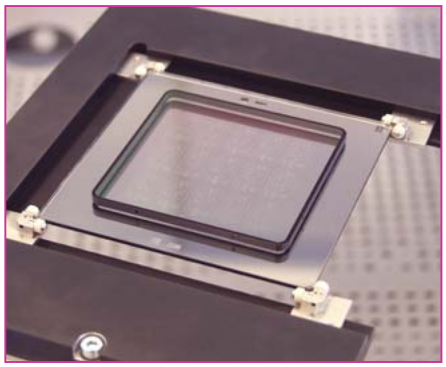
No Photomask Goes Uninspected!

Pollux - Now Available for 5” Photomasks

Since its introduction in 2002, the automatic particle detection system Pollux from Dr. Schenk has been very well received in the market worldwide. Initially available for inspection of 6” photomasks and reticles, there has been increasing demand for automatic defect detection on 5” photomasks.



To address this need, Dr. Schenk is pleased to introduce a new Pollux system version, accomplishing automatic particle detection on 5” photomasks with one or two pellicles.

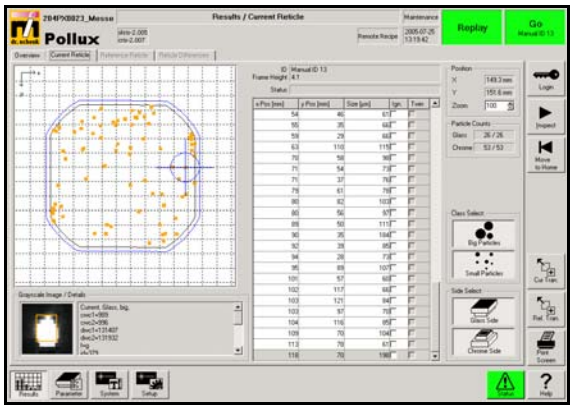
Pollux automatically adapts to the different pellicle forms and frame heights available. It inspects the glass or pellicle surface on the glass side and the pellicle surface on the chrome side of the photomask for imperfections, such as particles, defects and holes in the pellicle, down to 10 µm equivalent sphere diameter (ESD).

Pollux comes with a user interface according to SEMI standards, in order to provide best user-friendliness. The inspected results of a photomask, like particles, are shown in a defect table and defect size histogram. The associated ESD dimension and a gray image of each imperfection are also displayed, together with their exact position on the photomask. This comprehensive overview of an inspected photomask enables the operator to make a quick go/no-go decision. The inspected data can be transferred to an external host computer or exported in ASCII- or CSV-file-format for further evaluation or data storage.

With an average cycle time of between 45 and 85 seconds, depending on system configuration, the overall handling time is remarkably reduced, in comparison to manual inspection.

Automated optical inspection provides an objective quality control, at constant sensitivity, over the entire photomask. This is achieved by applying an innovative sensor system, which includes a closed loop control of the illumination intensity, as well as a permanent control of all relevant features. The need for re-calibration is eliminated, combined with longlife laser illumination, making maintenance of Pollux redundant, which leads to low cost of ownership.

Moreover, damages caused by manual handling are minimized, because Pollux can be fully integrated into reticle stockers, wafer steppers, cleaning stations or automatic handling stations. However, Pollux is also applicable as a stand-alone unit with manual loading.



Objective and reliable inspection is combined in a compact system size with easy handling. This, together with fast inspection and cost-effectiveness, make Pollux an indispensable addition to each wafer fab, supporting process optimization and yield enhancement.

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