



Defect Inspection

NanoPhotonics AG

RICMAR





Company

Since foundation in 1997, NanoPhotonics stands for compact modular wafer defect inspection for various applications in the semiconductor industry. As member of the Ricmar Group we are able to satisfy a large variety on customer demands for automatic defect inspection in combination wafer handling and logistics.

Our customers rely on flexible defect inspection tools for wafer front side, back side and edge inspection. The state-of-the-art tools are applied in process development, tool qualification, R&D, and for yield improvement in high volume manufacturing. We set international standards with our innovative modular product architecture and strong engineering capabilities that allow us to react quickly to customer's needs and to provide cost effective solutions. Our strong software team provides powerful automatic defect classification solutions enabling fully automatic quality inspection at various steps in semiconductor manufacturing processes.

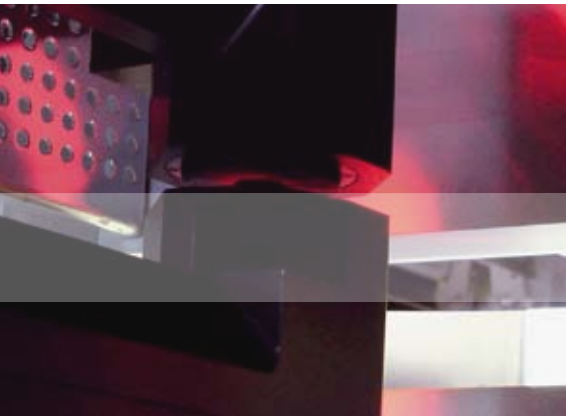
In close relationship with our customers our highly qualified engineering team is able to react quickly to customers requirements and provides state-of-the-art solutions.

Customer benefits

The basis of our success is both the consistent approach to the requirements of the market, and our strong customer orientation.

Our skilled staff is known for excellent and flexible customer support like comprehensive training, fast and reliable service, competent application support and our calibration wafer service. Our experienced R&D teams in fields of software, automatic defect classification, optical design, mechanics and electronics ensure consistent approach to the market requirements.

The application team provides excellent customer support carrying out measurements on the customer's wafers. Additionally we provide in-depth analysis of your metrology problem in our demo cleanroom. Our very compact tools even allow us to provide on-site demos in your facility.



Products

High competence in defect inspection makes NanoPhotonics your competent partner in the field of manual and automated wafer defect inspection.

NanoPhotonics defect inspection product line addresses the need of the industries different market segments for defect inspection. We provide manually operated and automatic tools for defect inspection on bare substrates like silicon, various metal and transparent thin films, glass and mask blanks as well as compound semiconductors. The substrate size covers a range from 2" to 300 mm wafers as well as mask blanks (2,5" x 2,5" – 8" x 8"). Typical applications are for example process and equipment development or contamination monitoring in production environment.

In addition to the manually operated REFLEX TT and the automatic REFLEX AC tool with open cassette platform we provide the fully automated modular REFLEX AF product line with real time automatic defect classification. Systems for front side defect inspection are used in Back End of Line applications like particle monitoring in under bump metallization processes or defect inspection on glass wafers prior to bonding. Another system combines metrology modules for edge, back side and front side inspection with one automation platform. The tools are successfully used in high volume manufacturing of bare wafers instead of visual inspection. Its modular product architecture fits perfectly for the build up of new process lines and a later technology upgrade without change of the robotic platform.



Market segments served

- Semiconductor bare wafer manufacturing
- Compound semiconductors
- IC manufacturing 4" - 300 mm
- Wafer reclaim
- MEMS
- Back end of line

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