

YieldStar 380G

Description

The YieldStar S/T-380G is an ASML metrology system which allows measurement of on-product overlay and focus using diffraction based overlay (μ DBO) and diffraction based focus (μ DBF) techniques and metrology for scanner stability and matching control (DBO/DBF/ABF).

Key Features and Benefits

The YieldStar S/T-380G enables and supports the following applications:

- On-product overlay measurements for monitoring and control (in conjunction with Litho Insight and Overlay Optimizer 1/2/3), using 10x10 μ m and 16x16 μ m targets (μ DBO)
- On-product focus measurements for monitoring and control (in conjunction with Litho Insight and Imaging Optimizer 1+2) using DBF and μ DBF focus targets
- BaseLiner MMO on TWINSCAN NXT or NXE scanners (DBO/DBF/ABF)

Increased Sampling

The YieldStar S/T-380G provides increased throughput compared to the YieldStar S/T-375F, being >50% faster in terms of overall lot processing time (time needed to measure one lot).

Accuracy and process robustness

The YieldStar S/T-380G enables continuous wavelengths in range of 425 nm to 880 nm without gap. Precision of central wavelength selection is 1 nm and bandwidth of wavelength is selectable from 10 to 30 nm. The use of continuous wavelength is expected to improve accuracy by choosing an optimal wavelength for the measurement. This can be done using the YieldStar Holistic Metrology Qualification (HMQ) application for recipe setup and optimization. The YieldStar S/T-380G features faster wavelength switching time and has increased source power combined with a faster sensor, so that multi-wavelength acquisition move-acquire-measure (MAM) time is improved significantly over YieldStar S/T-375F. This is expected to improve process robustness and/or throughput.