



ArF Immersion Scanner

NSR-S635E

Proven Solutions Through Evolution



Industry-leading Overlay Accuracy and Throughput for Cutting-edge Semiconductor Manufacturing

The NSR-S635E ArF immersion scanner with integrated inline Alignment Station (iAS) developed for high-volume cutting-edge semiconductor manufacturing.

Adopting the *Streamalign* platform efficiency, the NSR-S635E delivers improved overlay accuracy under 2.1 nm MMO and remarkable throughput of more than 275 WPH (96 shots) simultaneously.

NSR-S635E

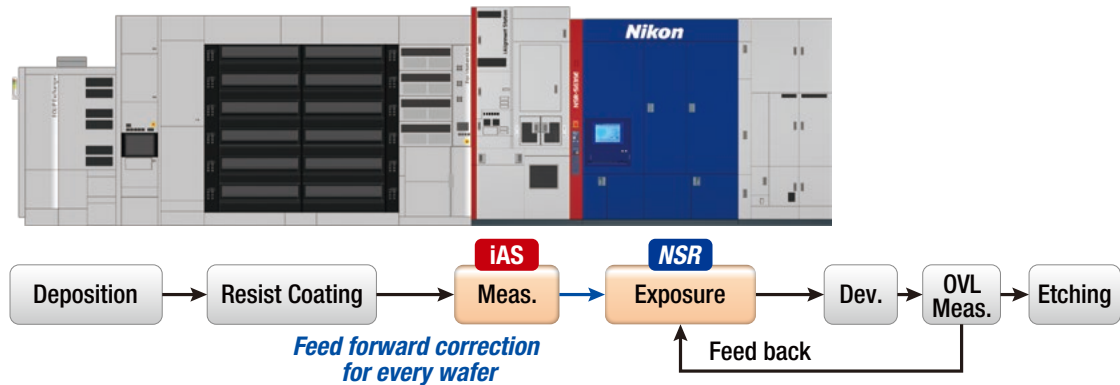
Performance

Resolution	≤ 38 nm
NA	1.35
Exposure light source	ArF excimer laser (193 nm wavelength)
Reduction ratio	1:4
Maximum exposure field	26 mm × 33 mm
Overlay	SMO ^{*1} : ≤ 1.5 nm, MMO ^{*2} : ≤ 2.1 nm
Throughput	≥ 275 wafers/hour (96 shots)

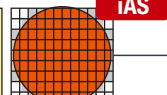
*1 Single Machine Overlay: machine-to-self overlay accuracy (NSR-S635E#1 to S635E#1)

*2 Mix and Match Overlay: machine-to-machine overlay accuracy (NSR-S635E#1 to S635E#2)

Features of the inline Alignment Station (iAS)



Measure and FF
- Dense sampling
- High order grid correction



Alignment on the NSR
- Sparse sampling
- Linear grid correction



The alignment station performs high-speed, ultra-precise measurement of all wafers, and then corrects problematic grid errors without reducing the throughput of the lithography system. The iAS enables comprehensive, multi-point alignment for all shots on the wafer, realizing remarkable overlay improvements, as well as maximized scanner throughput.

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Alignment Corrections

CLASS 1 LASER PRODUCT



WARNING

TO ENSURE CORRECT USAGE, READ MANUALS CAREFULLY BEFORE USING YOUR EQUIPMENT.

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<https://www.nikon.com/business/semi/>

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