



ArF Scanner

NSR-S310F

Tandem Stage Boosts Throughput 20%
and Alignment



A 174 Wafers per Hour Throughput Facilitates 65 nm or Smaller Device Mass Production

ArF Scanner NSR-S310F

The NSR-S310F ArF scanner employs an acclaimed tandem stage to improve throughput by 20% over conventional models, delivering 174 wafers (300 nm devices) per hour. With alignment accuracy upgraded to 7 nm or better, the NSR-S310F mass produces 65 nm or smaller devices with high productivity and accuracy.

Main Features

- **Nikon-original Tandem Stage ensures high throughput and accuracy**

The Nikon Tandem Stage—renowned for its performance on ArF immersion scanners—uses an exposure stage and separate calibration stage to achieve a high throughput of 174 wafers (300 nm devices) per hour. Because calibration is provided frequently, high stability is ensured.

- **Exceptional imaging performance**

Nikon projection optics (NA 0.92) and illumination system ensure exceptional imaging performance with low flare, and the system is highly immune to thermal changes. The 4th-generation POLANO polarization control system and optional infrared aberration control (IAC) combine to enhance imaging performance even further.

- **Minimal CoO**

High throughput and long-term stability through the use of a tandem stage, and production-proven exceptional imaging technology greatly contribute to the reduction of CoO (Cost of Ownership).

- **Common platform cuts running costs**

The NSR-S310F is built on a platform common to all Nikon scanners. This improves production efficiency and cuts running costs. The common-platform tandem stage shortens installation time—a factor that is becoming increasingly important for device manufacturers. The shared software simplifies field support.

Performance

Resolution	≤ 65 nm
NA	0.92
Light source	ArF excimer laser (wavelength: 193 nm)
Projection magnification	1:4
Maximum exposure field	26 x 33 mm
Overlay	$ M + 3\sigma \leq 7$ nm
Throughput	174 or more wafers per hour (300 nm devices)

CLASS 1 LASER PRODUCT



WARNING

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

The export of this product is controlled by Japanese Foreign Exchange and Foreign Trade Law and International export control regime. It shall not be exported without authorization from the appropriate governmental authorities.

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This product was developed and manufactured in the factory certified under ISO 9001.