



ArF Immersion Scanner

# NSR-S635E

Proven Solutions Through Evolution



# Industry-leading ArF Immersion Scanner for High-volume Manufacture of Devices at the 5 nm Process Node Improves Overlay Accuracy and Throughput

The NSR-S635E ArF immersion scanner with integrated inline Alignment Station (iAS) developed for high-volume 5 nm node application 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

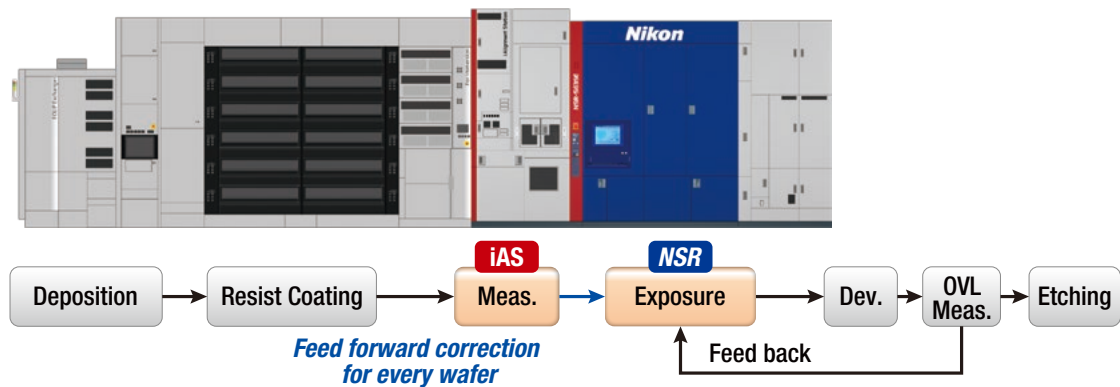
## Performance

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 <sup>*1</sup> : ≤ 1.5 nm, MMO <sup>*2</sup> : ≤ 2.1 nm
Throughput	≥ 275 wafers/hour (96 shots)

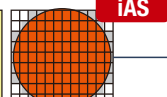
\*1 Single Machine Overlay: machine-to-self overlay accuracy (NSR-S635E#1 to S635E#1)

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

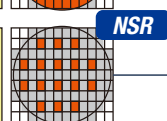
## Features of the inline Alignment Station (iAS)



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.

Alignment Corrections

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.

Performance and equipment are subject to change without any notice or obligation on the part of the manufacturer.

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### NIKON CORPORATION

Semiconductor Lithography Business Unit  
Business Planning Department

Shinagawa Intercity Tower C, 2-15-3, Konan, Minato-ku, Tokyo 108-6290, Japan  
Tel: +81-3-6433-3639

### NIKON PRECISION INC.

1399 Shoreway Road, Belmont, CA 94002-4107, U.S.A.  
Tel: +1-(650)-508-4674

### NIKON PRECISION EUROPE GmbH

Robert-Bosch-Strasse 11, D-63225 Langen, Germany  
Tel: +49-6103-973-0

### NIKON PRECISION KOREA LTD.

2, Singal-ro 124beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, 16968 Korea  
Tel: +82-31-288-5601

### NIKON PRECISION TAIWAN LTD.

3F.-1, NO.28, Tajuan St., Zhubei City, Hsinchu County 302, Taiwan, R.O.C.  
Tel: +886-3-552-5888

### NIKON SINGAPORE PTE LTD.

Precision Division  
60 Anson Road, #09-01 Mapletree Anson, Singapore 079914  
Tel: +65-6559-3618

### NIKON PRECISION SHANGHAI CO., LTD.

12F, Tower 5, Crystal Plaza No. 36, Ping Jia Qiao Road, Pudong New District, Shanghai 200126, China  
Tel: +86-21-5899-0266