

# ***Nikon***

## **Step-and-Repeat System**

# **NSR-2205i14E2**



For 350 nm Device  
Mass Production

# Step-and-Repeat System **NSR-2205i14E2**

## Main Features

### • High Throughput

Thanks to the employment of new, highly enhanced illumination, along with a reduction in stepping and alignment time, the NSR-2205i14E2 features a high throughput of 103 wafers per hour (for 200 mm wafers).

### • High Resolution and Modified Illumination for Mass Production

The NSR-2205i14E2 incorporates a projection lens with a peak N.A. of 0.63 which, in combination with modified illumination technology, enables resolution of 350 nm or better.

With Resolution Enhanced Technology (RET) and variable-N.A. reticle design, the system is equipped to handle a wide range of process parameters and diverse cutting-edge device mass-production process requirements, including rough and middle layers.

### • Overall Alignment Accuracy

The i14E2's reticle interferometer system improves alignment accuracy, including chip rotation correction and staging accuracy. Thanks to enhanced baseline measurement and internal chip accuracy (chip magnification, chip rotation), overlay has been significantly improved.

### • Refined Operation Interface

The operation has been enhanced through upgrades to the computer software. A user-friendly operational environment has been made possible through a workstation, large-size color monitor, multi-window display, and mouse and keyboard. An extensive lineup of measurement evaluation and maintenance software provides the right answer for all your needs.

## Options

### • Support for Resolution Enhancement Technology (RET)

With RET an aperture can be opened in the illumination system between the illumination light source and the reticle to optimize the light distribution, thereby enhancing both peak resolution and DOF. This aperture is available in six designs — one conventional and five custom-specific types.

### • Online and Automated Operation

Software conforms with SECS I and II protocols, and all NSR operations can be remotely controlled by a host computer. Our advanced Lithography Information Control System (LINCS) delivers more effective automation than ever. Online production management and automation systems on host computers at individual user plants are interconnected with dedicated control computers and instrumentation, providing integrated management of lithography-related information and automated operation in a field-proven system.

### • In-Line Use

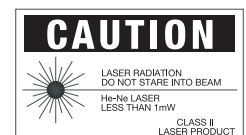
Productivity has been improved with direct transfer from the upstream coater/developer, and setup time has been slashed.

### • Flexible Alignment Systems

Three high-performance alignment systems are available — the standard LSA (Laser Step Alignment) and FIA (Field Image Alignment), and the optional LIA (Laser Interferometric Alignment) — to provide the optimum system for your process. With the FIA, phase-contrast FIA is possible. This enables the detection of alignment marks that have been eroded by chemical mechanical polishing.

## Specifications

<b>Resolution</b>	≤ 350 nm
<b>N.A.</b>	0.63
<b>Exposure light source</b>	i-line (365 nm)
<b>Reduction ratio</b>	1:5
<b>Exposure field</b>	22 mm square to 17.9 (H) x 25.2 (V) mm
<b>Overlay</b>	M  + 3σ ≤ 40 nm
<b>Alignment system</b>	LSA (standard), FIA (standard), LIA (optional)



**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. Products and brand names are trademarks or registered trademarks of their respective companies. April 2013  
©2013 NIKON CORPORATION

<http://www.nikon.co.jp/pec>

### **NIKON CORPORATION** Precision Equipment Company Planning Headquarters Business Planning Department

Shin-Yurakucho Bldg., 12-1, Yurakucho 1-chome, Chiyoda-ku,  
Tokyo 100-8331, Japan  
Tel: +81-3-3216-1344 Fax: +81-3-3216-1059

### **NIKON PRECISION INC.**

1399 Shoreway Road, Belmont, CA 94002-4107, U.S.A.  
Tel: +1-(650)-508-4674 Fax: +1-(650)-508-4600

### **NIKON PRECISION EUROPE GmbH**

Robert-Bosch-Strasse 11, D-63225 Langen, Germany  
Tel: +49-6103-973-0 Fax: +49-6103-973-333

### **NIKON PRECISION KOREA LTD.**

17-24 Singal-Dong, Giheung-Gu, Yongin-Si, Gyeonggi-Do, Korea  
Tel: +82-31-288-5601 Fax: +82-31-288-5609

### **NIKON PRECISION TAIWAN LTD.**

3F-1, 2, 3, 5 No. 28, Tai Yuen Street, Chu Pei City, Hsin Chu Hsien, Taiwan  
Tel: +886-3-552-5888 Fax: +886-3-552-5858

### **NIKON SINGAPORE PTE LTD.**

Precision Division  
29 Woodlands Industrial Park E1, Northtech Lobby 3 #4-17, Singapore 757716  
Tel: +65-6367-4020 Fax: +65-6367-4021

### **NIKON PRECISION SHANGHAI CO., LTD.**

RM. 601 Xin Jin Qiao Tower, No. 28 Xin Jin Qiao Road, Pudong New District,  
Shanghai 201206, China  
Tel: +86-21-5899-0266 Fax: +86-21-5899-1660



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