FPD Lithography Systems

**FX-103SH/103S**

Gen 10.5 Plate FPD Lithography Systems for High-definition Panel Production
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FPD Lithography Systems FX-103SH/103S

By incorporating techniques from both the FX-67S2, which is ideal for the production of small and medium-sized, high-definition panels, and the FX-86SH2, which excels in the production of TV panels, the FX-103SH/103S is optimized for manufacturing high-definition, large-sized panels and achieves a shorter takt time than our conventional Gen 10 lithography system. The FX-103SH enables a high resolution of 2.2 μm.

Key Features

- **Short Takt Time**
  Incorporating the renewed exposure sequence and calibration sequence of the conventional model, the FX-103SH/103S realizes faster and higher accuracy exposure.

- **High Resolution**
  In making the Gen 10.5 FPD lithography system, the FX-103SH has fully enhanced illumination and multi-lens systems, both of which use Nikon’s proprietary resolution enhancement technique, originally developed for the FX-86SH2. The FX-103SH incorporates a new auto-focus system that optimally corrects the measurement errors of mask bending and plate flatness. This enables a high resolution of 2.2 μm (L/S) while also ensuring a wide depth of focus.

- **High Overlay Accuracy**
  The position measuring system of the conventional model is renewed to improve measurement results, achieving a high overlay accuracy of ±0.5 μm.

- **High Throughput**
  The FX-103SH/103S achieves the high throughput of 480 plates per hour for 65-inch panels, up 77% compared with the conventional model, and 322 plates per hour for 75-inch panels.

Performance

<table>
<thead>
<tr>
<th></th>
<th>FX-103SH</th>
<th>FX-103S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution (L/S)</td>
<td>2.2 μm (g+h+i-line)</td>
<td>3.0 μm (g+h+i-line)</td>
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<tr>
<td>Projection magnification</td>
<td>1:1</td>
<td></td>
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<tr>
<td>Overlay</td>
<td>≤ ±0.5 μm</td>
<td></td>
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<tr>
<td>Plate size</td>
<td>3,370 mm × 2,940 mm</td>
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<tr>
<td>Takt time</td>
<td>60 sec./plate</td>
<td></td>
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<tr>
<td>Conditions:</td>
<td>3,370 mm × 2,940 mm, 4 scans, g+h+i-line, 30 mJ/cm²</td>
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</table>

![CAUTION]

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

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