Video Measuring System

NEXIV

VMZ-H3030

High-precision Model
**Features**

NEXIV VMZ-H3030

 Achieves measurement at the highest precision of the NEXIV series, as well as advanced usability and performance.

### Features

**NEXIV model with the highest precision**

\[
\text{E}_{\text{UX}}, \text{MPE}, \text{E}_{\text{UY}}, \text{MPE} : \frac{0.6 + 2L}{1000} \ \mu m
\]

\[
\text{E}_{\text{UZ}}, \text{MPE} : \frac{0.9 + L}{150} \ \mu m
\]

XYZ Stroke: \(300\times300\times150 \ \text{mm}\)

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### Zooming heads

5 types of optical zoom systems

Type 1, 2, and 3 provide clear and low distortion image and high NA. Type 4 and TZ are designed to cover high magnification. 5 types are available to choose from to cover different fields of view and resolution requirements.

#### Zooming head

<table>
<thead>
<tr>
<th>Zooming head</th>
<th>Optical magnification</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>0.5X ~ 7.5X</td>
<td>Molds, mechanical parts (household, automobile), PCB, electronic parts, ceramic parts</td>
</tr>
<tr>
<td>Type 2</td>
<td>1X ~ 15X</td>
<td>Electronic parts</td>
</tr>
<tr>
<td>Type 3</td>
<td>2X ~ 30X</td>
<td>High density package substrate (line width, height)</td>
</tr>
<tr>
<td>Type 4</td>
<td>4X ~ 60X</td>
<td>Wafer pattern (WLP, bump height, rewiring mask, MEMS mask)</td>
</tr>
<tr>
<td>Type TZ</td>
<td>1X ~ 120X</td>
<td></td>
</tr>
</tbody>
</table>

#### Field of View

<table>
<thead>
<tr>
<th>Type 1</th>
<th>0.5</th>
<th>1</th>
<th>2</th>
<th>4</th>
<th>7.5</th>
<th>8</th>
<th>15</th>
<th>16</th>
<th>30</th>
<th>32</th>
<th>60</th>
<th>64</th>
<th>120</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.33</td>
<td>7.01</td>
<td>4.7</td>
<td>3.5</td>
<td>1.75</td>
<td>0.875</td>
<td>0.467</td>
<td>0.253</td>
<td>0.117</td>
<td>0.058</td>
<td>0.0437</td>
<td>0.0311</td>
<td>0.0291</td>
<td>0.0116</td>
</tr>
</tbody>
</table>

### Illumination

8-segment ring illuminator with three incident angles

The three different angles allow the ring illuminator to accurately capture edges. All illuminators employ white LED and provide stability and long life.

<table>
<thead>
<tr>
<th>Incident Angle</th>
<th>Long WD</th>
<th>Short WD</th>
</tr>
</thead>
<tbody>
<tr>
<td>37°</td>
<td>WD: 50 mm</td>
<td></td>
</tr>
<tr>
<td>55°</td>
<td>WD: 26 mm</td>
<td></td>
</tr>
<tr>
<td>78°</td>
<td>WD: 10 mm</td>
<td></td>
</tr>
</tbody>
</table>

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### Software

Easy to use, streamlined software

Provides enhanced ease of use with the customizable GUI and versatility based on Nikon’s years of extensive experience in developing the NEXIV series.

#### Functions possible with software

- Virtual (off-line) — CAD interface off-line teaching support program
- Profiler — CAD interface off-line teaching support program
- MountainsMap X (optional) — Sample surfaces can be analyzed, based on ISO, with the data exported from the NEXIV system.
- MapMeasure Pro (optional) — MapMeasure Pro creates wafer maps and is capable of automatically measuring any die on the wafer map. Tray maps can also be created.

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*For Type4 and Type TZ, please refer to Specifications Chart of PG4*
## Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>VMZ-H3030</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td>XYZ Strokes</td>
</tr>
<tr>
<td><strong>XYZ Strokes</strong></td>
<td>300×300×150 mm</td>
</tr>
<tr>
<td><strong>Minimum readout</strong></td>
<td>0.01 µm</td>
</tr>
<tr>
<td><strong>Maximum sample weight</strong></td>
<td>30kg (Accuracy guaranteed: 10kg)</td>
</tr>
<tr>
<td><strong>Maximum permissible error</strong> (for samples under 20 kg)</td>
<td>EUYMPE EUYMPE: 0.6+2L/1000 µm EUYMPE: 0.9+3L/1000 µm EUYMPE: 0.9+L/150 µm</td>
</tr>
<tr>
<td><strong>Accuracy guaranteed temperature</strong></td>
<td>20 °C ± 0.5 K</td>
</tr>
<tr>
<td><strong>Maximum driving speed XY, Z</strong></td>
<td>100 mm/s , 50 mm/s</td>
</tr>
<tr>
<td><strong>Minimum driving speed XY, Z</strong></td>
<td>0.01 mm/s , 0.001 mm/s</td>
</tr>
<tr>
<td><strong>Camera</strong></td>
<td>VGA 1/3 B/W, Color *Color camera option is available only with Type 1, 2 and 3.</td>
</tr>
<tr>
<td><strong>Working distance</strong></td>
<td>Type 1, 2, 3: 50 mm (10 mm when using 75 degree LED illumination) / Type 4: 30 mm</td>
</tr>
<tr>
<td><strong>Magnification and FOV</strong></td>
<td>Type 1: 0.5–7.5×/9.33×7.01–0.622×0.467/7 mm Type 2: 1–15×/4.67×3.5–0.311×0.233 mm Type 3: 2–30×/2.33×1.75–0.155×0.117 mm Type 4: 4–60×/1.665×0.875–0.078×0.056 mm</td>
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<td><strong>Autofocus</strong></td>
<td>TTL Laser AF/Image AF</td>
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<td><strong>Illumination</strong></td>
<td>Type 1, 2, 3, and 4 Episcopic, diascopic, and 8-segment ring with 3 angles *All white LED/Type 4 has only 1 angle</td>
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<tr>
<td><strong>Type TZ</strong></td>
<td>Episcopic, diascopic, darkfield</td>
</tr>
<tr>
<td><strong>Power source</strong></td>
<td>AC 100 - 240 V ± 10% 50/60 Hz</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>5 A - 2.5 A</td>
</tr>
<tr>
<td><strong>Dimensions &amp; weight</strong></td>
<td>Main body with table (W×D×H) 1000×1125×1750 mm / approx. 500 kg Controller 190×450×440 mm / approx. 20 kg Footprint (W×D) 3030×2800 mm</td>
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**Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer.** April 2023 ©2018-2023 NIKON CORPORATION

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

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