**Effortless Measurement of 6 Clinical Parameters in 10 Seconds**

NIDEK’s solution is the state of the art optical biometer - the AL-Scan. In 10 seconds, six values for cataract surgery are measured:

- Axial length
- Corneal curvature radius
- Anterior chamber depth
- Central corneal thickness
- White-to-white distance
- Pupil size

**3-D Auto Tracking and Auto Shot**
The AL-Scan incorporates NIDEK’s much acclaimed 3-D auto tracking and auto shot, enabling accurate measurement with ease and comfort. The 3-D auto tracking follows eye movements along the X-Y-Z directions to ensure accurate alignment of the eye. Once correct alignment is completed, the auto shot immediately captures the image and data.

**Anterior Segment Observation with Scheimpflug Imaging and Double Mire Ring Keratometry**
The AL-Scan provides sectional lens image, pupil image, and reflected image of double mire rings projected onto the cornea. The sectional lens image assists in the evaluation of the severity of the cataract. The pupil image assists in the assessment for multifocal IOL. The reflected image of mire rings assists in detecting an irregular corneal surface.

**Optional Built-in Ultrasound Biometer**
In cases where the optical biometer cannot measure an eye with an extremely dense cataract, the AL-Scan provides an optional built-in ultrasound biometer, allowing measurement of virtually any cataractous eye with a combined model. The AL-Scan requires no connection with an external ultrasound unit.
IOL Power Calculation and IOL Constants Optimization

The IOL power is automatically calculated after measurement. Calculation of a personalized IOL constant improves postoperative accuracy.

IOL power calculation formula on AL-Scan
Nine IOL calculation formulas are incorporated in the AL-Scan. Once measurement is completed, the IOL power is automatically calculated using its own measured data.

+ Additional Barrett formulas available for the NAVIS-EX AL-Scan Viewer
   Barrett Universal II, Barrett True-K, Barrett Toric Calculator

AL-Scan Viewer for NAVIS-EX

AL-Scan Viewer is software used for viewing and working with AL-Scan data via NAVIS-EX. This function enhances the capability of the AL-Scan with additional features and increases the efficiency of any clinic.

Data Management and IOL Power Calculations

The large storage capacity of the NAVIS-EX database is available for review on the AL-Scan Viewer. The basic functions of the AL-Scan can also be performed with the AL-Scan Viewer including IOL power calculations and optimization of IOL constants.

Toric Lens Assist Function

Acquisition of multiple toric lens assist images allows selection of the optimal image for digitally marking the astigmatic axis. These images allow better surgical planning for accurate toric IOL alignment.

Recalculation of Measured Values

The AL-Scan Viewer allows recalculation of modified axial length, white-to-white, and pupil size data for accurate calculations.

NAVIS-EX is an image filing software that enables data from the NIDEK diagnostic devices to be centralized in the NAVIS-EX database. It was initially developed for NIDEK’s retinal products and has been expanded to network with the AL-Scan.

* NAVIS-EX is optional software and is required for use of the AL-Scan Viewer.
### AL-Scan Specifications

<table>
<thead>
<tr>
<th>Optical measurement</th>
<th>Measurement range</th>
<th>Display increments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axial length</td>
<td>14 to 40 mm</td>
<td>0.01 mm</td>
</tr>
<tr>
<td>Corneal curvature radius</td>
<td>5.00 to 13.00 mm</td>
<td>0.01 mm</td>
</tr>
<tr>
<td>Anterior chamber depth</td>
<td>1.5 to 6.5 mm</td>
<td>0.01 mm</td>
</tr>
<tr>
<td>Central corneal thickness</td>
<td>250 to 1,300 μm</td>
<td>1 μm</td>
</tr>
<tr>
<td>White-to-white distance</td>
<td>7 to 14 mm</td>
<td>0.1 mm</td>
</tr>
<tr>
<td>Pupil size</td>
<td>1 to 10 mm</td>
<td>0.1 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ultrasonic measurement (optional)</th>
<th>Measurement range</th>
<th>Display increments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axial length</td>
<td>12 to 40 mm</td>
<td>0.01 mm</td>
</tr>
<tr>
<td>Corneal thickness</td>
<td>200 to 1,300 μm</td>
<td>1 μm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IOL power calculation formula</th>
<th>Regression, Regression II, Formula/T, Binkhorst, Hoffer Q, Holladay 1, Haigis, Camellin-Calossi, Camellin-Calossi, Shammas PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto tracking</td>
<td>X-Y-Z directions</td>
</tr>
<tr>
<td>Auto shot</td>
<td>Available</td>
</tr>
<tr>
<td>Display</td>
<td>Tiltable 8.4-inch color LCD touch screen</td>
</tr>
<tr>
<td>Printer</td>
<td>Thermal line printer with automatic paper cutter</td>
</tr>
<tr>
<td>Interface</td>
<td>LAN, USB</td>
</tr>
<tr>
<td>Power supply</td>
<td>AC 100 to 240 V, 50/60 Hz</td>
</tr>
<tr>
<td>Power consumption</td>
<td>100 VA</td>
</tr>
<tr>
<td>Dimensions/Mass</td>
<td>283 (W) x 504 (D) x 457 (H) mm / 21 kg</td>
</tr>
<tr>
<td></td>
<td>11.1 (W) x 19.8 (D) x 18.0 (H) / 46 lbs</td>
</tr>
</tbody>
</table>

### AL-Scan Viewer for NAVIS-EX*

<table>
<thead>
<tr>
<th>IOL calculation formula</th>
<th>Regression, Regression II, Formula/T, Binkhorst, Hoffer Q, Holladay 1, Haigis, Camellin-Calossi, Barrett Universal II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-LASIK</td>
<td>Camellin-Calossi, Shammas-PL, Barrett True-K</td>
</tr>
<tr>
<td>Toric calculator</td>
<td>Barrett Toric Calculator</td>
</tr>
</tbody>
</table>

| Additional features               | Maximum data entry for 100 IOLs                                                                                  |
| IOL registration                  | Maximum of 50 Surgeons                                                                                           |
| Surgeon registration              | Maximum of 50 Surgeons                                                                                           |
| Surgeon-specific constant         | Available                                                                                                          |
| optimization                      |                                                                                                                   |

* NAVIS-EX is optional software and is required for use of the AL-Scan Viewer.

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**Product/Model name:** OPTICAL BIOMETER AL-Scan

Caution: U.S. Federal Law restricts this device to sale, distribution, and use by or on the order of a physician or other licensed eye care practitioner. Specifications may vary depending on circumstances in each country. Specifications and design are subject to change without notice.

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July 24, 2019
19-0034