NIDEK

Optical Biometer

AL-Scan

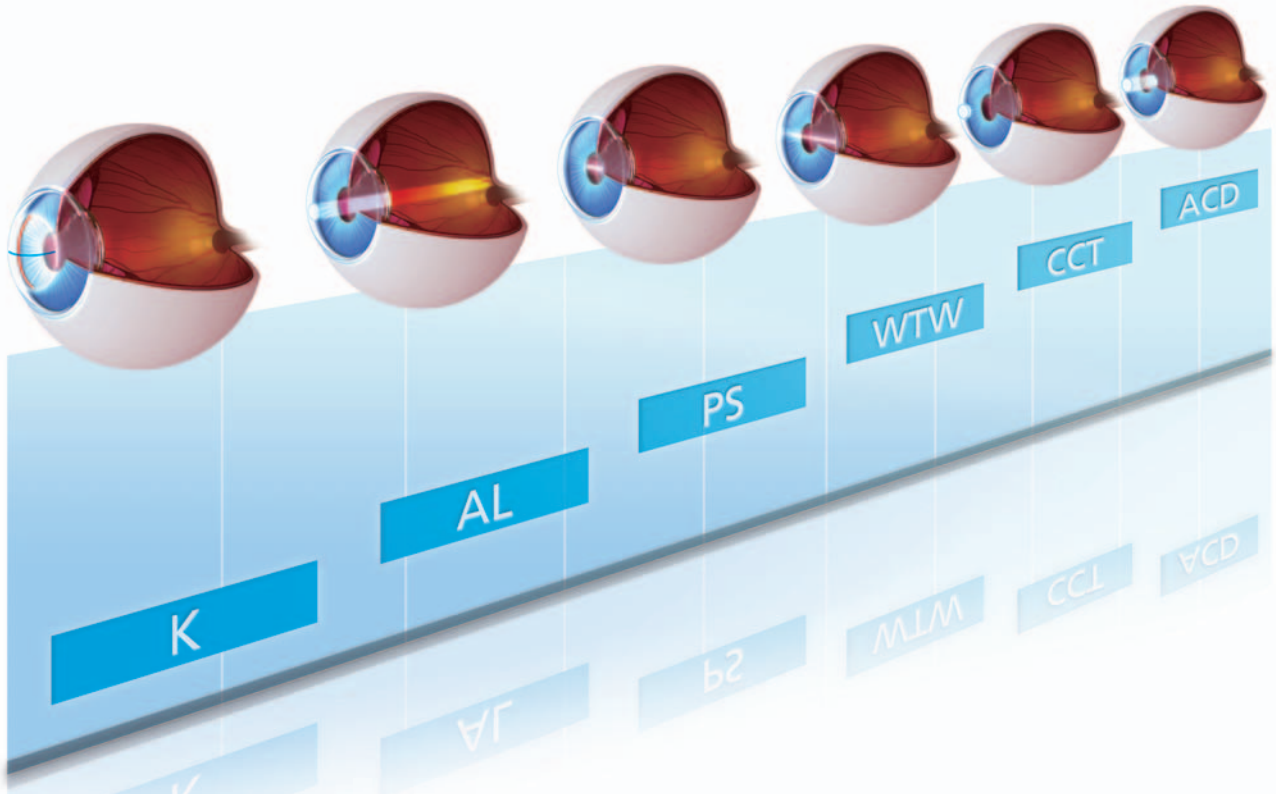
reddot design award
winner 2012

THE ART OF EYE CARE

State of

10 Seconds to Measure 6 Values

Rapid measurements are essential for clinical efficiency and patient comfort.



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

the Art

3-D Auto Tracking and Auto Shot

With the introduction of the AL-Scan, NIDEK continues its tradition of providing user friendly equipment. The AL-Scan is so intuitive that personnel require little to no training for obtaining measurements.

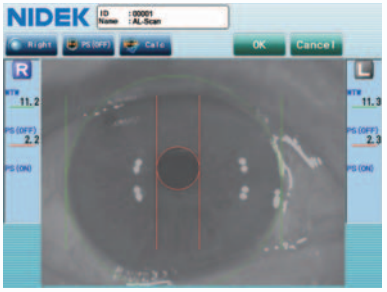
The AL-Scan incorporates NIDEK's much acclaimed 3-D auto tracking and auto shot, which provides the operator with the most ease, comfort, and accuracy on all measurements. The 3-D auto tracking tracks eye movements on the X-Y-Z planes to ensure accurate alignment of the eye. Once correct alignment is completed, the auto shot immediately captures the image and data.

Anterior Segment Observation with Imaging of Lens, Pupil, and Double Mire Rings

The AL-Scan provides sectional lens image, pupil image, and reflected image of double mire rings projected onto the cornea, which enables the operator to observe the anterior segment.

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 mires rings assist in detecting an irregular corneal surface.

Sectional lens image (Scheimpflug image)



Pupil image

Reflected image of double mire rings

IOL Calculation with Its Own Measured Values

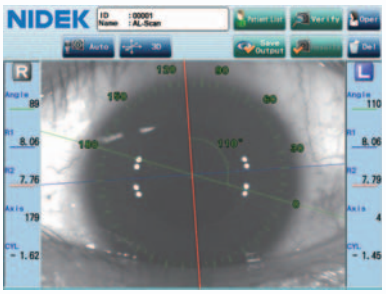
Nine IOL calculation formulas are incorporated in the AL-Scan. Once measurement is completed, the IOL power is automatically calculated using its own measured data.

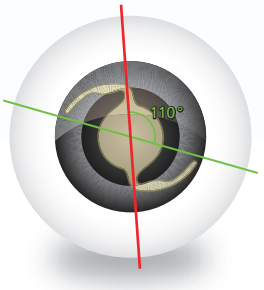
IOL Constants Optimization

The AL-Scan can optimize the IOL constants by statistically calculating with the postoperative refractive power. IOL constants optimization helps improve postoperative accuracy.

Assist for Toric IOL Alignment

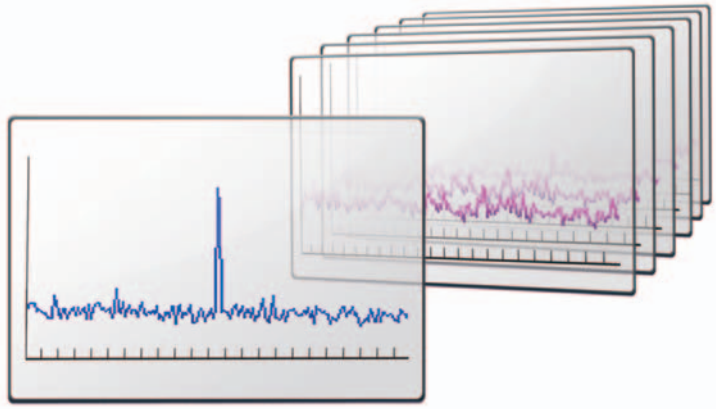
The AL-Scan can draw a line passing through a prominent vessel or other landmark that can indicate the angle from the steepest meridian. The lines and angle are clearly denoted and overlaid on the eye image to assist with toric IOL alignment in the operating theater.





the Art

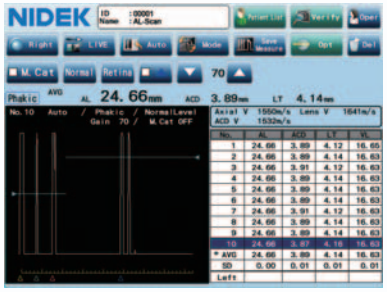
Ability to Measure Eyes with Even Dense Cataract



Advanced measurement algorithms enhance the signal-to-noise ratio by decreasing noise and boosting the signal, which allows the AL-Scan to measure eyes with even dense cataract.

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 without having to move the patient.
The AL-Scan requires no connection with an external ultrasound unit.



Biometry

Pachymetry

AL-Scan Specifications

Optical measurement		
Axial length	Measurement range	14 to 40 mm
	Display increments	0.01 mm
Corneal curvature radius	Measurement range	5.00 to 13.00 mm
	Display increments	0.01 mm
Anterior chamber depth	Measurement range	1.5 to 6.5 mm
	Display increments	0.01 mm
Central corneal thickness	Measurement range	250 to 1,300 µm
	Display increments	1 µm
White-to-white distance	Measurement range	7 to 14 mm
	Display increments	0.1 mm
Pupil size	Measurement range	1 to 10 mm
	Display increments	0.1 mm
Ultrasonic measurement (optional)		
Axial length	Measurement range	12 to 40 mm
	Display increments	0.01 mm
Corneal thickness	Measurement range	200 to 1,300 µm
	Display increments	1 µm
IOL calculation formula		
Conventional	SRK, SRK II, SRK/T, Binkhorst, Hoffer Q, Holladay, Haigis, Camellin-Calossi	
Post-LASIK	Camellin-Calossi, Shammas PL	
Auto tracking / Auto shot	X-Y-Z directions Auto shot	
Display	Tiltable 8.4-inch color LCD touch screen	
Printer	Thermal line printer with automatic paper cutter	
Interface	LAN, USB	
Power supply	AC 100 to 240 V 50 / 60 Hz	
Power consumption	100 VA	
Dimensions / Mass	283 (W) x 504 (D) x 457 (H) mm / 21 kg 11.1 (W) x 19.8 (D) x 18.0 (H) " / 46 lbs.	

Specifications and design are subject to change without notice.

Eye & Health Care
NIDEK CO., LTD.

HEAD OFFICE
34-14 Maehama, Hiroishi
Gamagori, Aichi 443-0038, Japan
Telephone : +81-533-67-6611
Facsimile : +81-533-67-6610
URL : http://www.nidek.co.jp
[Manufacturer]

TOKYO OFFICE
(International Div.)
3F Sumitomo Fudosan Hongo Bldg.,
3-22-5 Hongo, Bunkyo-ku, Tokyo
113-0033, Japan
Telephone : +81-3-5844-2641
Facsimile : +81-3-5844-2642
URL : http://www.nidek.com

NIDEK INC.
47651 Westinghouse Drive
Fremont, CA 94539, U.S.A.
Telephone : +1-510-226-5700
: +1-800-223-9044 (US only)
Facsimile : +1-510-226-5750
URL : http://usa.nidek.com

NIDEK S.A.
Europarc
13, rue Auguste Perret
94042 Créteil, France
Telephone : +33-1-49 80 97 97
Facsimile : +33-1-49 80 32 08
URL : http://www.nidek.fr

NIDEK TECHNOLOGIES Srl
Via dell'Artigianato, 6 / A
35020 Albignasego (Padova), Italy
Telephone : +39 049 8629200 / 8626399
Facsimile : +39 049 8626824
URL : http://www.nidektechnologies.it

VEGETABLE OIL INK

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