



Optical Biometer
AL-Scan



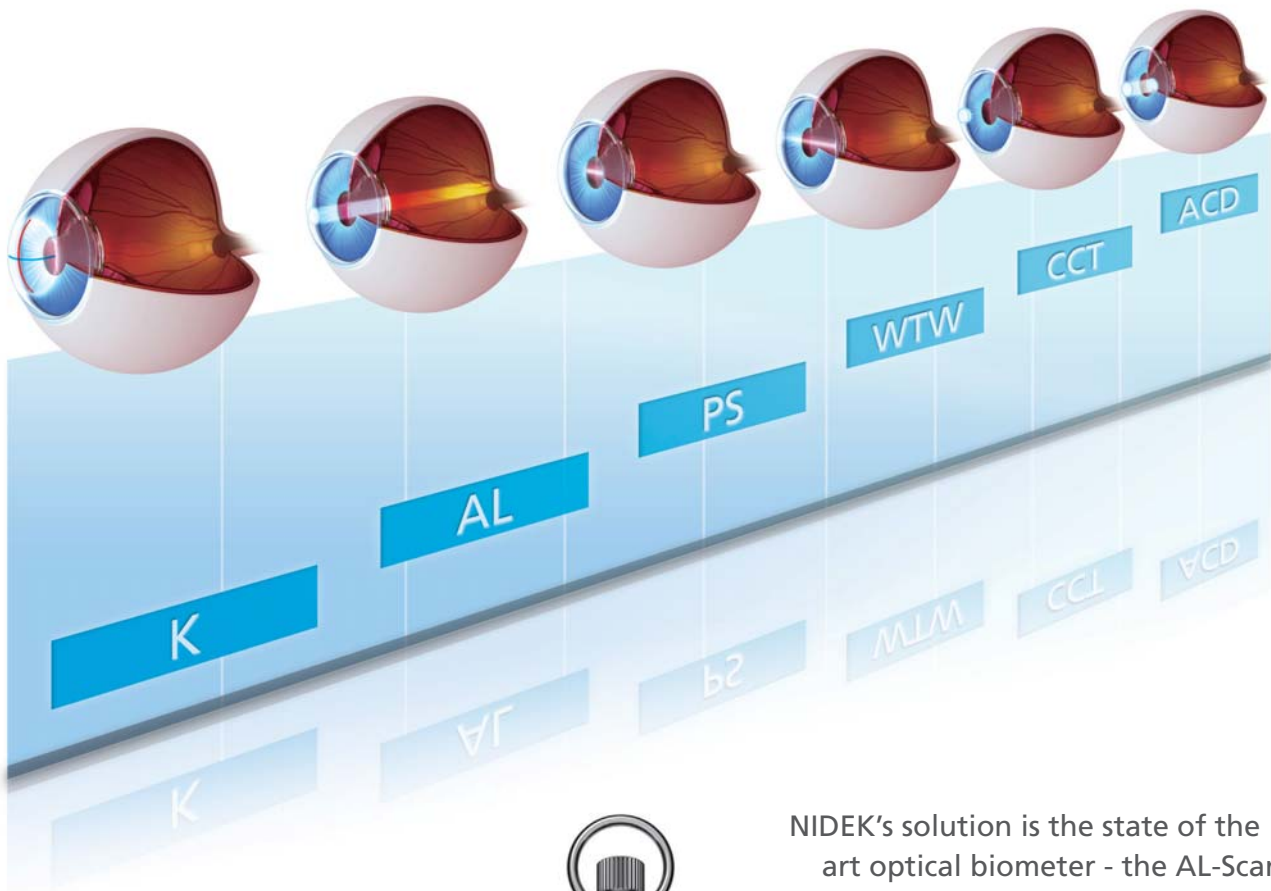
reddot design award
winner 2012



THE ART OF EYE CARE

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

of 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.

Z direction

X direction

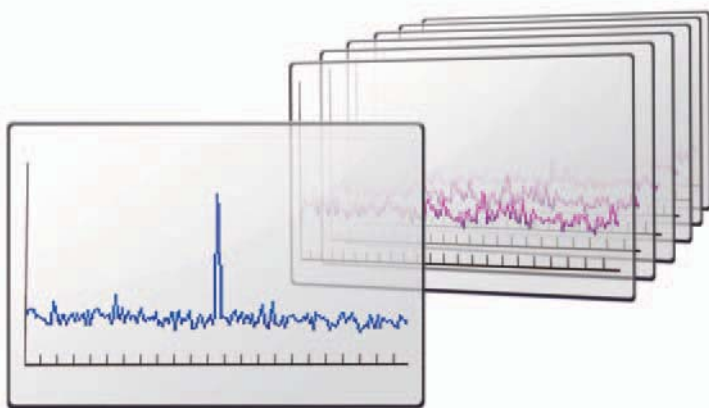
Y direction

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.



of the Art

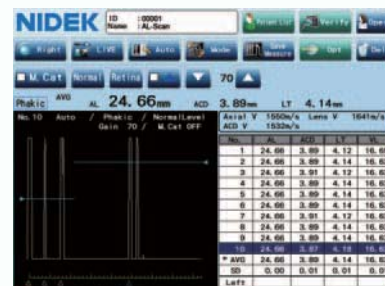
Ability to Measure Eyes with Even Dense Cataract



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

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 assists in detecting an irregular corneal surface.



Sectional lens image (Scheimpflug image)



Pupil image



Reflected image of double mire rings

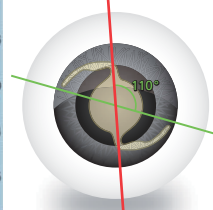
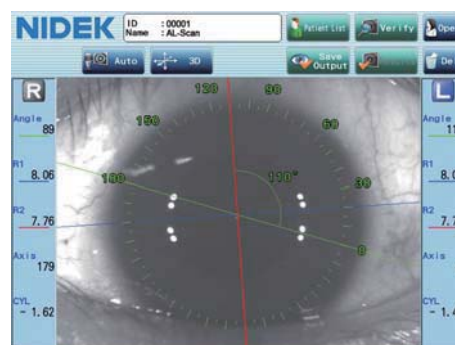
IOL Calculation and IOL Constants Optimization

Once measurement is completed, the IOL power is automatically calculated using its own measured data. The AL-Scan can optimize the IOL constants by statistically calculating with the postoperative refractive power, which helps improve postoperative accuracy.

Right		Left		Right	
AL (Opt)	: 25.28 SNR: 21.7	AL (Opt)	: 25.29 SNR: 21.1	Ref. Target	
ACD (Opt)	: 3.28	ACD (Opt)	: 3.23	Imp	21.0
R1/R2 (#2.4)	: 8.82/ 8.40	R1/R2 (#2.4)	: 8.75/ 8.40		
R1/R2 (#3.3)	: 8.80/ 8.46	R1/R2 (#3.3)	: 8.73/ 8.41		
IOL1 Right	IOL2 Right	IOL3 Left	IOL4 Left		
SRK/T	Camellin-Calossi	Holladay 1	Halgis		NS-60YG
NS-60YG Nidek	N4-18YG Nidek	NS-60YG Nidek	NZ-1 Nidek		
Opt Aconst #119.7	Opt Aconst #119.2	Opt SF # 2.13	Opt a0: # 1.589		
			a1: # 0.400		
			a2: # 0.100		
Power 21.24	Power 21.87	Power 21.39	Power 21.37		
IOL Ref	IOL Ref	IOL Ref	IOL Ref		
20.0 0.86	21.0 0.58	20.5 0.60	20.5 0.61		
20.5 0.52	21.5 0.25	21.0 0.26	21.0 0.26		
21.0 0.17	22.0 -0.09	21.5 -0.03	21.5 -0.09		
21.5 -0.18	22.5 -0.42	22.0 -0.42	22.0 -0.45		
22.0 -0.54	23.0 -0.76	22.5 -0.77	22.5 -0.82		

Assist for Toric IOL Alignment

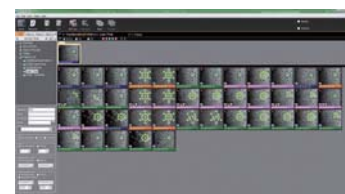
The AL-Scan can draw a line passing through a prominent vessel or other landmark that can indicate the angle from the steepest meridian. The lines and angle are clearly denoted and overlaid on the eye image to assist with toric IOL alignment in the operating theater.



AL-Scan Viewer for NAVIS-EX

AL-Scan Viewer is software used for viewing and working with AL-Scan data within NAVIS-EX, image filing software of NIDEK. This functionality enhances the capability of the AL-Scan with additional features and increases clinical efficiency.

- Data management and IOL calculations
- Recalculation of measured values
- Toric lens assist function



AL-Scan Specifications

Optical measurement		
Axial length	Measurement range	14 to 40 mm
	Display increments	0.01 mm
	Measurement method	Low-coherence interferometry (LCI)
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 1, Haigis, Camellin-Calossi	
Post-LASIK	Camellin-Calossi, Shammas PL	
Auto tracking / Auto shot		
X-Y-Z directions		
Auto shot		
Display	Tilttable 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 may vary depending on circumstances in each country.
Specifications and design are subject to change without notice.



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