



## LENSTAR

### Improving outcomes

With its integrated Barrett Universal II and Olsen IOL calculation formulae and the Lenstar's unique measurement of the lens thickness, accurate prediction of the IOL position is provided for every type of eye.<sup>1</sup> To improve refractive outcomes, the Lenstar is the optimal choice.

<sup>1</sup> Lam S. Comparison of Age-derived Lens Thickness to Optically Measured Lens Thickness in IOL power Calculation: A Clinical Study. J Refract Surg. 2012 Feb; 28(2): 154-5. 5 Wang L, Hill WE, Koch DD. Evaluation of intraocular lens power prediction methods using the American Society of Cataract and Refractive Surgeons Post-keratorefractive Intraocular Lens power Calculator. J Cataract Refract Surg. 2010 Sep; 36(9): 1466-73.

**Tradition and Innovation** – Since 1858, visionary thinking and a fascination with technology have guided us to develop innovative products of outstanding reliability: Anticipating trends to improve the quality of life.



## LENSTAR LS 900

# Perfect K values— best toric results

The Lenstar features dual zone keratometry or T-Cone topography for precise astigmatism and axis measurement. The integrated Barret Toric Calculator predicts toric IOL, considering the posterior cornea for excellent refractive outcomes.

# Measured lens thickness— improved refractive outcomes

With its integrated Barrett Universal II and Olsen IOL calculation formulae, and the Lenstar's unique measurement of the lens thickness, accurate prediction of the IOL position is provided for every type of eye.<sup>2</sup>



<sup>2</sup> Hill W, Osher R, Cooke D, Solomon K, Sandoval H, Salas-Cervantes R, Potvin R. Simulation of toric intraocular lens results: manual keratometry versus dual zone automated keratometry from an integrated biometer. J Cataract Refract Surg. 2011 Dec; 37(12): 2181-7.

## A new level of performance

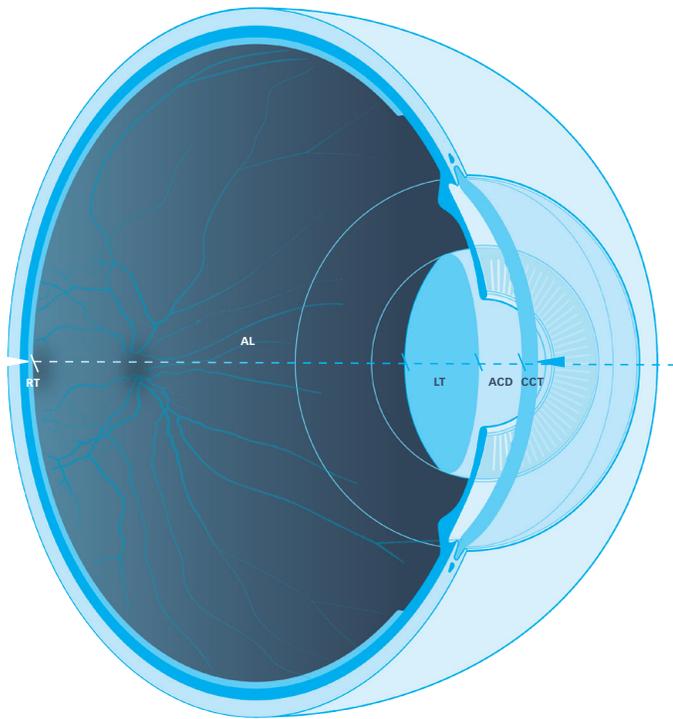


The Radial Basis Function (RBF) specializes in pattern recognition and extraction and can handle multiple factors and non-linear relationships. Based on the axial length (AL), anterior chamber depth (ACD) and corneal curvature (K) inputs, it finds the pattern that leads to an accurate IOL prediction. Combined with a boundary model, the RBF calculator only provides a result if the respective prediction is accurate with a very high probability.

**“No one’s ever seen numbers like this.” – Warren Hill, MD**

In 3,212 independent cases from 13 surgeons in eight countries, the outcomes had a weighted mean  $\pm 0.50$  D accuracy of 95%.

This accuracy was consistent from one beta test site to the next across Europe, the Middle East, Africa, North and South America, Asia, India, and Australia. This level of consistency reveals that the outcomes are technologically driven.



#### LENSTAR MEASUREMENTS

## Seven measurements – in one optical biometer

With the click of the acquisition button, Lenstar can obtain seven different eye measurements.

Central corneal thickness<sup>CCT</sup>

Keratometry<sup>K</sup> / Topography<sup>Topo</sup>

White-to-white<sup>WTW</sup>

Pupillometry<sup>PD</sup>

Lens thickness<sup>LT</sup>

Anterior chamber depth<sup>ACD</sup>

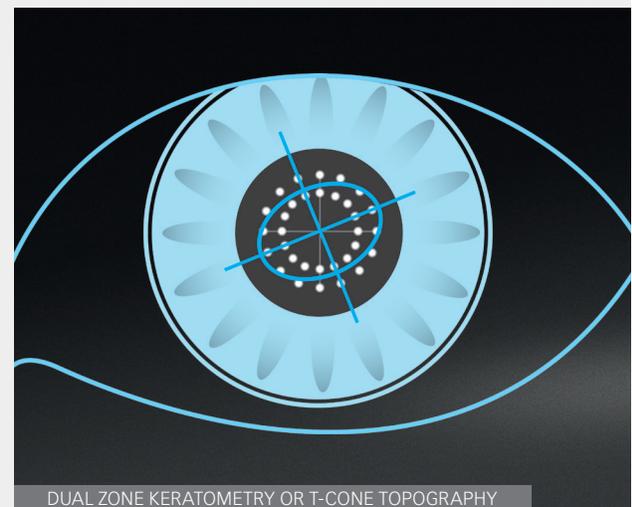
Axial length<sup>AL</sup>

## The ultimate platform for toric IOL planning

Lenstar's unique dual zone keratometer can now be used with an optional T-Cone topography add-on and the toric surgery planning platform, EyeSuite IOL Toric Planner, included in all new Lenstar Pro models.

The T-Cone enables the Lenstar to provide true Placido topography of the central 6mm optical zone. The toric surgery planning platform allows precise planning and optimization of the surgical procedure based on high-resolution and true color eye images taken with the Lenstar, either in combination with the T-Cone, or based on the dual zone keratometry of the standard unit. The toric planner shows the implantation axis, the incision location and user-defined guiding meridians in the real patient image.

Planning of the operation on real eye images allows the user to define recognizable, additional guiding lines to anatomical landmarks in the intra-operative view and minimize any residual astigmatism. The planning sketch can easily be printed and hung near the microscope.



DUAL ZONE KERATOMETRY OR T-CONE TOPOGRAPHY

		Lenstar Essential with APS	Lenstar Pro	Lenstar Pro with APS	
Operation	Multi user system	■	■	■	
	Dense Cataract Measurement Mode (DCM)	■	■	■	
	Automated Positioning System (APS)	■	○	■	
Measurements	Axial length (AL)	■	■	■	
	Central corneal thickness (CCT)		■	■	
	Anterior chamber depth (ACD)	■	■	■	
	Anatomic ACD (AD)		■	■	
	Lens thickness (LT)		■	■	
	Keratometry (K)	■	■	■	
	Topography (Topo)		○*	○*	
	Aqueous Depth		■	■	
	White to white (WTW)	■	■	■	
	Pupillometry (PD)	■	■	■	
	Quality control	Display of standard deviation of repeated measurements	■	■	■
		Access to A-scan and imaging data		■	■
		Manual adjustments of measurement gates		■	■
IOL Calculation	Barrett Universal II	■	■	■	
	Barrett True-K	■	■	■	
	Barrett Toric Calculator		○**	○**	
	Haigis	■	■	■	
	HofferQ	■	■	■	
	Holladay 1	■	■	■	
	Olsen		■	■	
	SRK II and SRK/T	■	■	■	
	Masket / Modified Masket	■	■	■	
Shammas No-History	■	■	■		
IOL constants	Personalisation of IOL constants	■	■	■	
Networkability	Electronic medical record interfaces (EyeSuite Script Language, GDT, EyeSuite Command Line Interface)	■	■	■	
	DICOM (SCU)	○	○	○	
	IOL calculation on additional workstations		■	■	
	EyeSuite viewing stations		■	■	

■ included

○ optionally available

All Lenstar Pro features and options are available to Lenstar Essential users after an upgrade to Pro, which is possible on site at any time

○\* This option is part of the T-Cone Toric Platform

○\*\* This option is part of the T-Cone Toric Platform or the EyeSuite IOL Toric Planner

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