arcscan
Imaging ahead of the curve

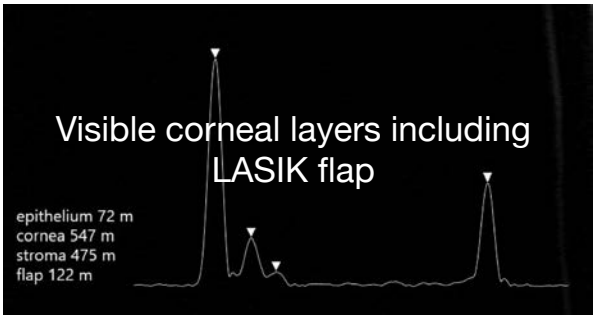
SCANTYPES/CAPABILITIES
ROBOTIC ULTRASOUND

Contents

CORNEA SCAN

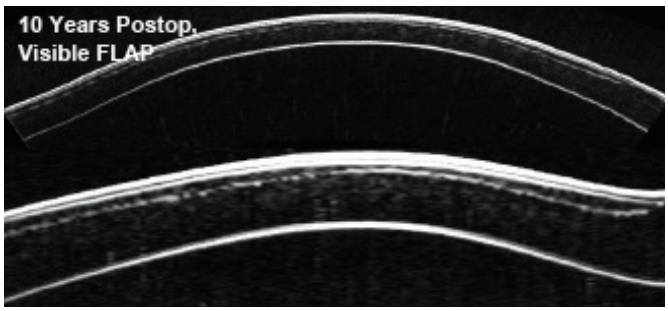
CLINICAL FINDINGS

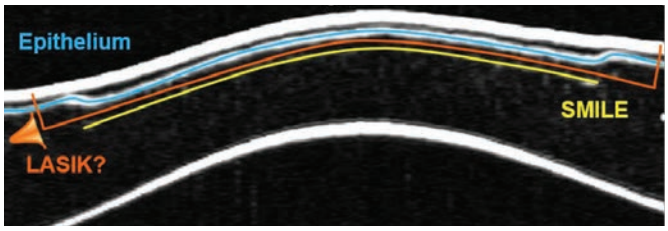
- Epithelium
- Bowman's Layer
- Intrastromal Layer
- Endothelium



APPLICATIONS/ MEASUREMENTS AVAILABLE

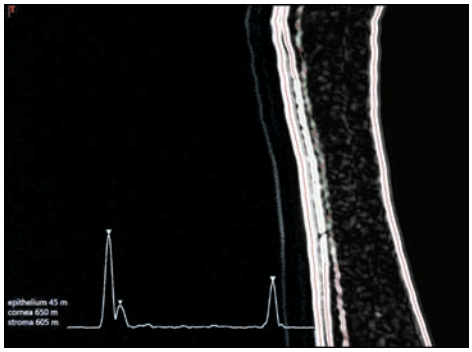
- Epithelial Mapping
- Keratoconus Screening
- Corneal Thickness measurements
- Flap Thickness measurements
- Residual stromal thickness measurements
- Manual measurement tools

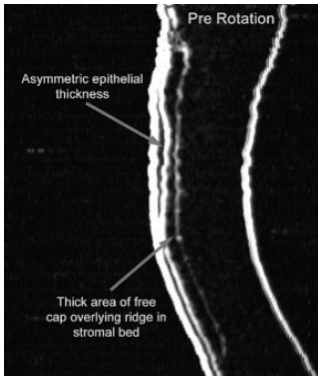


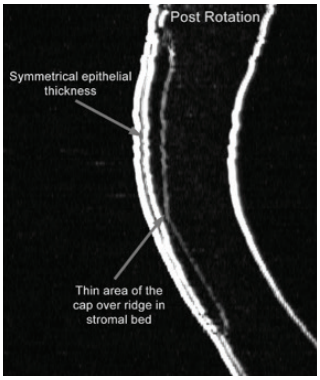


CLINICAL BENEFITS

- Detect Keratoconus at earliest stages with medical confidence while other methods produce borderline results
- Proven ability to rule in 7% more LASIK patients previously diagnosed and ruled out
- Avoid refractive surgical error by detecting corneal irregularities through usage of high frequency ultrasound
- Detect LASIK flaps 10 years post operatively
- High sensitivity epithelial profiling to plan LASIK Flap over SMILE, avoiding crossing epithelium of the interface
- Advanced ability to plan repositioning of a free cap following LASIK
- Determine the thickness of a corneal scar, and the overlying epithelium
- Use epithelial thickness measurements to determine the safety of further hyperopic steepening

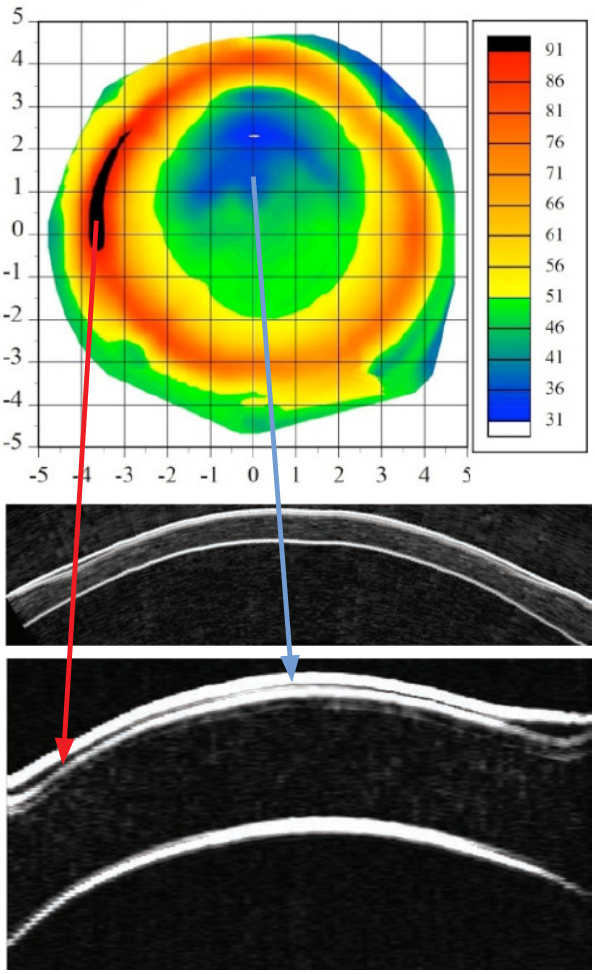


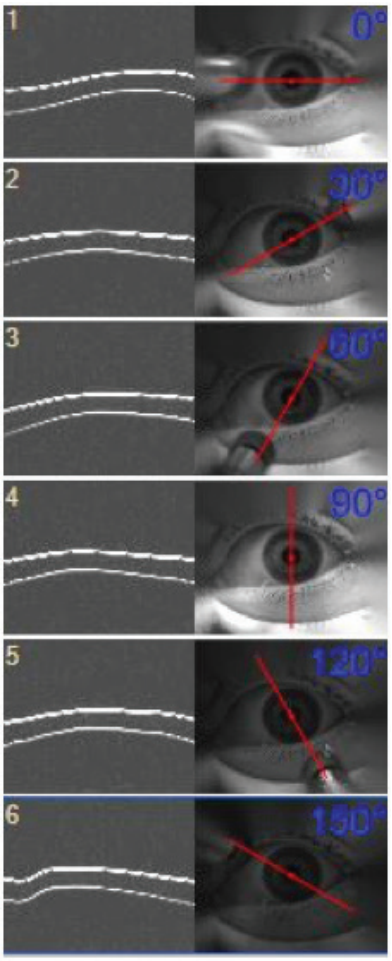




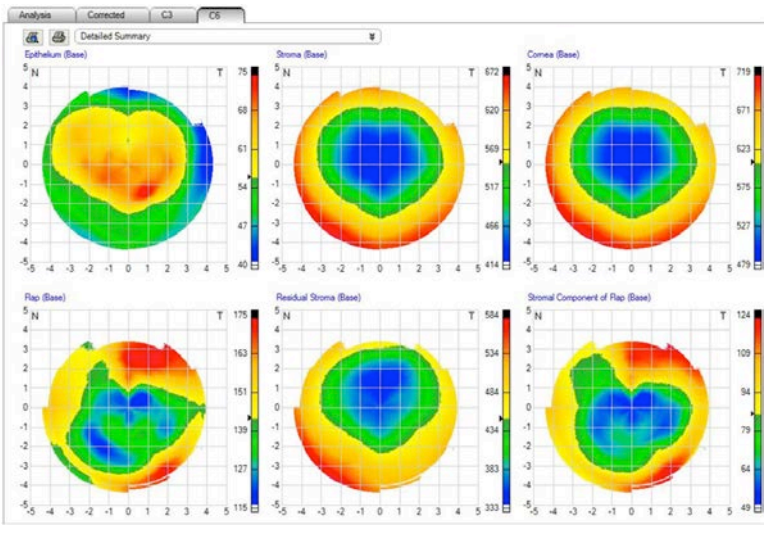
CORNEAL APPLICATIONS:
EPITHELIAL MAPPING

2 MONTHS AFTER LASIK, VISIBLE: EPITHELIUM, BOWMAN'S, FLAP AND CORNEAL POSTERIOR SURFACE





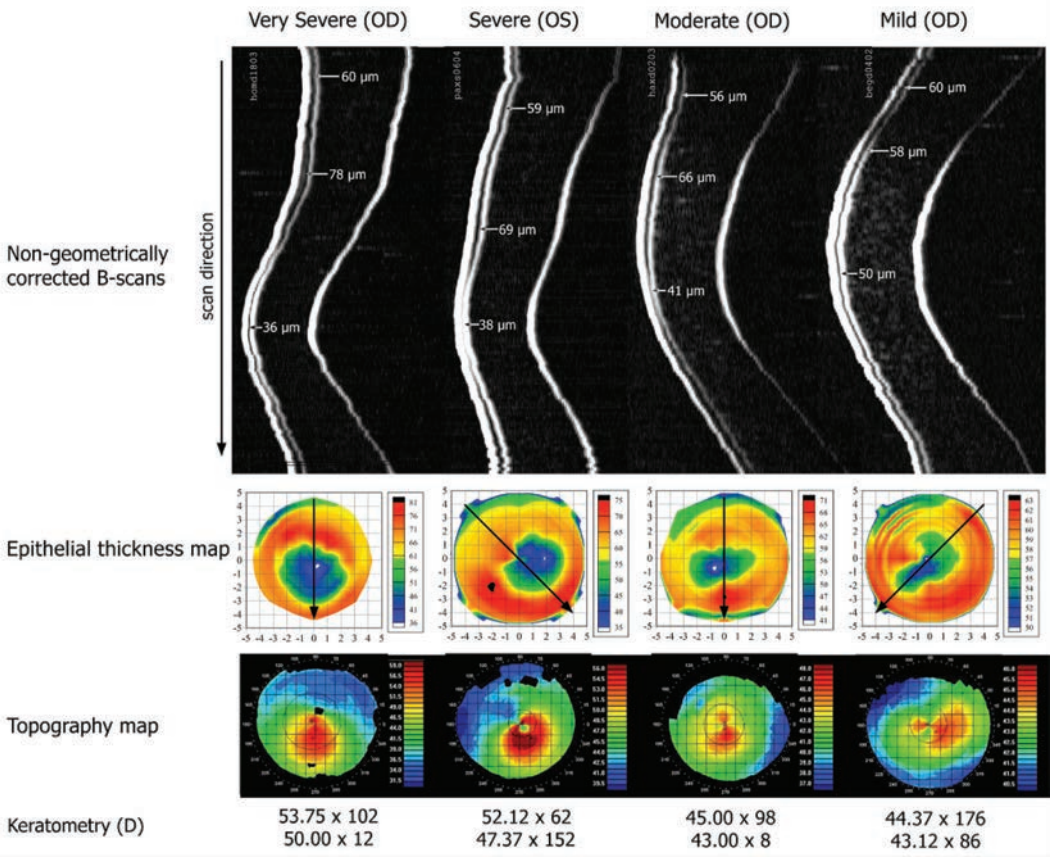
SETS THE SCAN AREA IMAGE THE ENTIRE CORNEA USING EQUALLY SPACED MERIDIANS.



THICKNESS MEASUREMENTS

- Epithelium
- Stroma
- Cornea
- Flap
- Residual stroma
- Stromal component of the flap

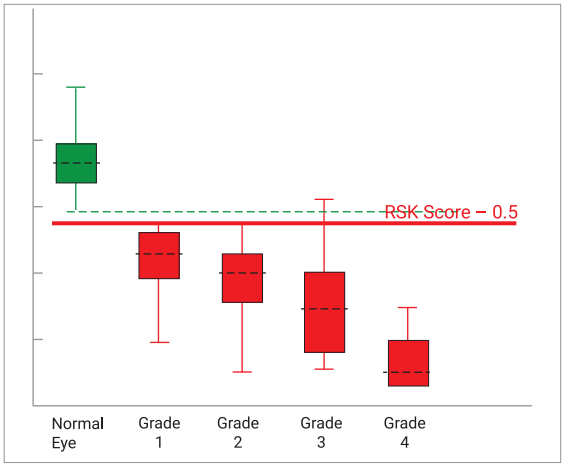
CORNEAL APPLICATIONS:
EPITHELIAL MAPPING



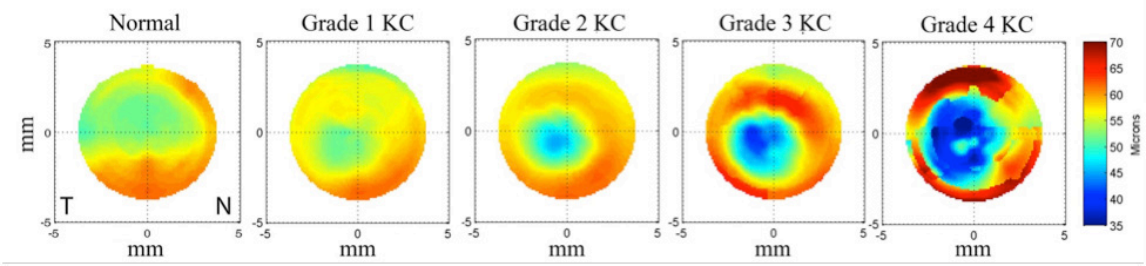
KERATOCONUS DETECTION

AUTOMATED KERATOCONUS ALGORITHM

- Stepwise linear discriminant analysis
- 161 variables
- 6 variable model
- 99.2% specificity
- 94.6% sensitivity



* Epithelial Remodeling as Basis for Machine-Based Identification of Keratooconus
(Ronald H. Silverman, Raksha Urs, Arindam RoyChoudhury, Timothy J Archer, Marine Gobbe and Dan Z. Reinstein)
Invest Ophthalmol Vis Sci. 2014;55:1580-1587. DOI:10.1167/iovs. 13-12578



ANTERIOR SEGMENT SCAN

CLINICAL PATHOLOGIES VIEWABLE

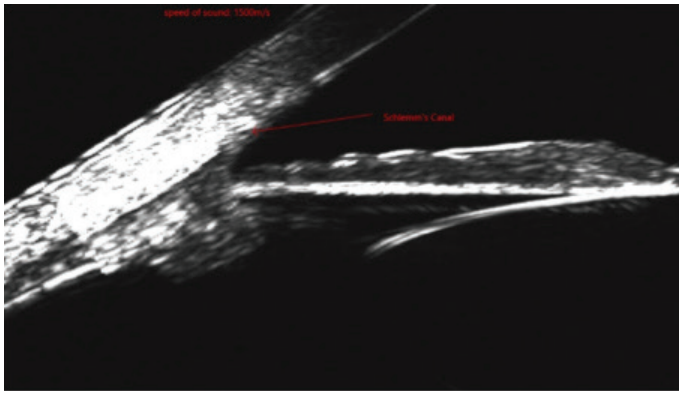
- Scleral Spur
- Anterior Chamber
- Masses and cysts
- Irido-corneal angle
- Hypotony
- Trauma

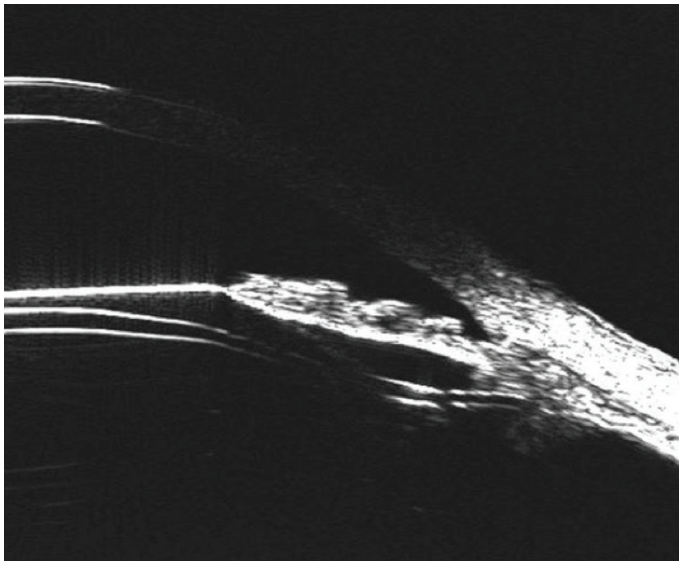
APPLICATIONS/MEASUREMENTS AVAILABLE

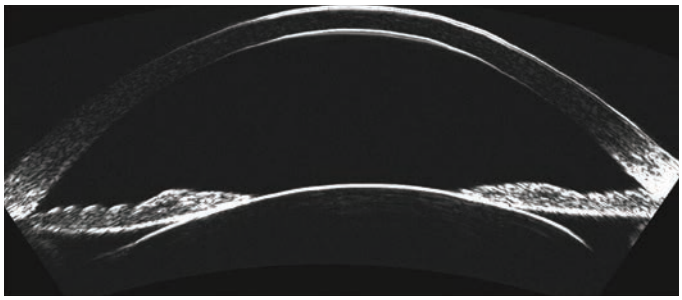
- Glaucoma Analysis Software
- Anterior Chamber Depth manual measurement
- Manually measure angles and other structures
- Biometry for surgery including sulcus-to-sulcus distance or angle-to-angle distance

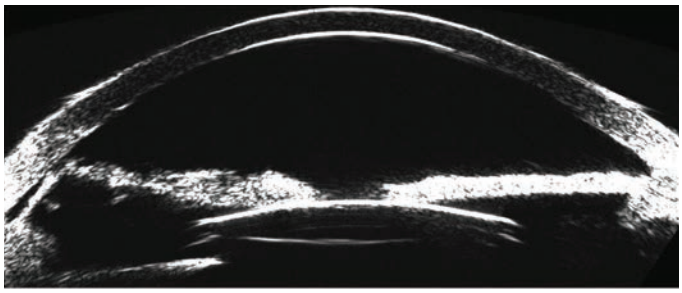
CLINICAL BENEFITS

- Detect and treat early onset Glaucoma
- Monitor state of angle in a reliable repeatable manner
- Analyze the anatomical space behind the iris
- Bilateral reimbursement of $180 using code 76513

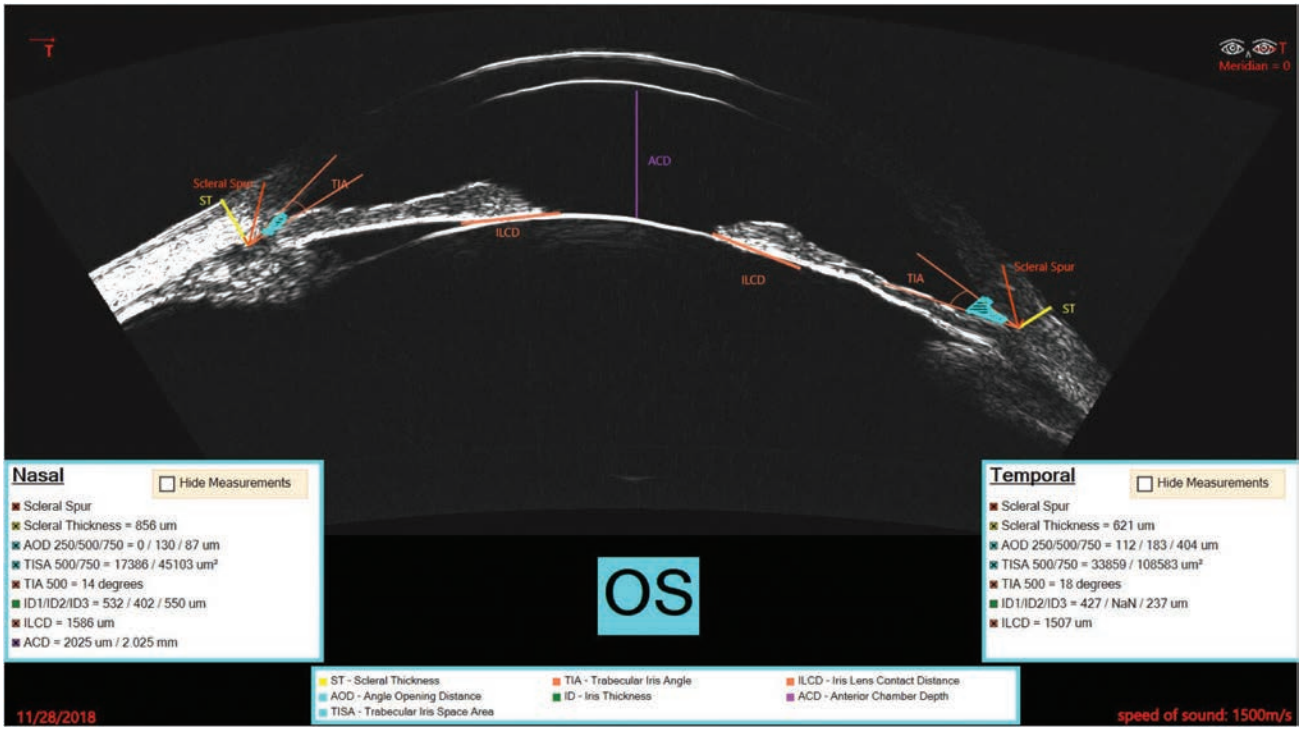






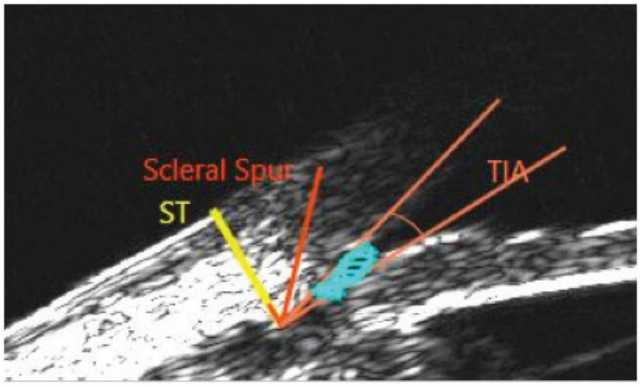


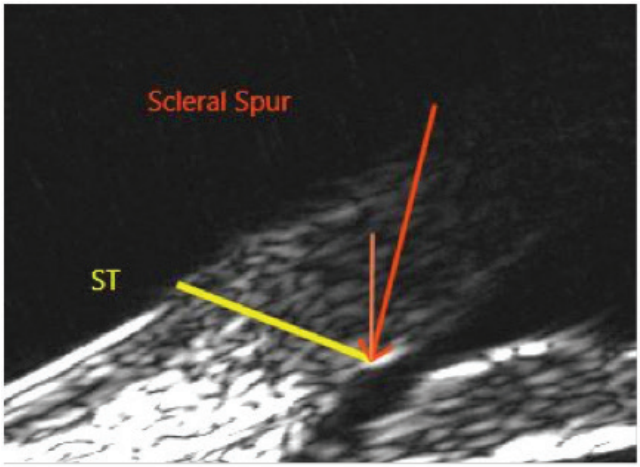
ANTERIOR SEGMENT APPLICATIONS:
GLAUCOMA ANALYSIS



AUTOMATICALLY GENERATED MEASUREMENTS:

- Angle to angle width
- Anterior Chamber Depth
- Scleral Spur detection
- Scleral thickness
- Trabecular iris space area
- Trabecular Iris Angle
- Angle Opening Distance
- Iris thickness Iris lens contact distance
- Ability to manually move scleral spur resulting in reproduced new measurements

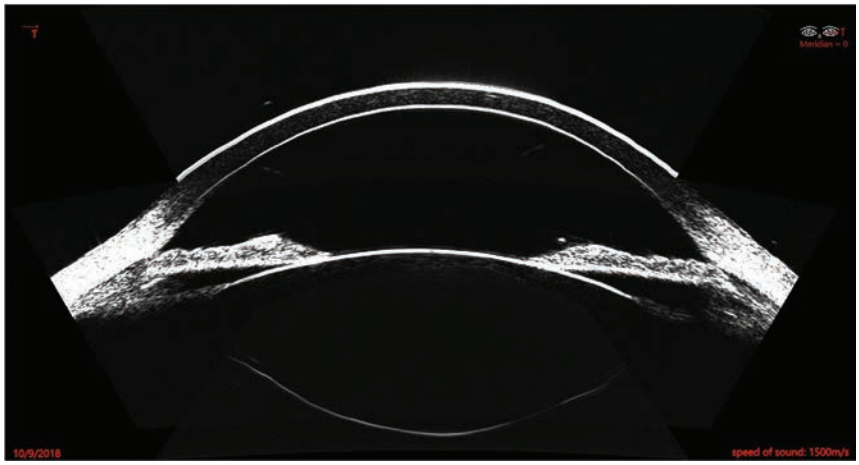




CAPSULE SCAN

CLINICAL PATHOLOGIES VIEWABLE

- Posterior chamber
- Entire lens capsule
- ICL's
- Foot plates
- Ciliary body
- Zonules
- Haptics

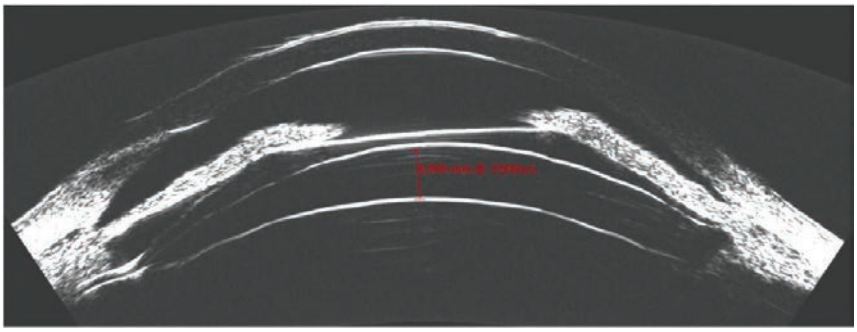


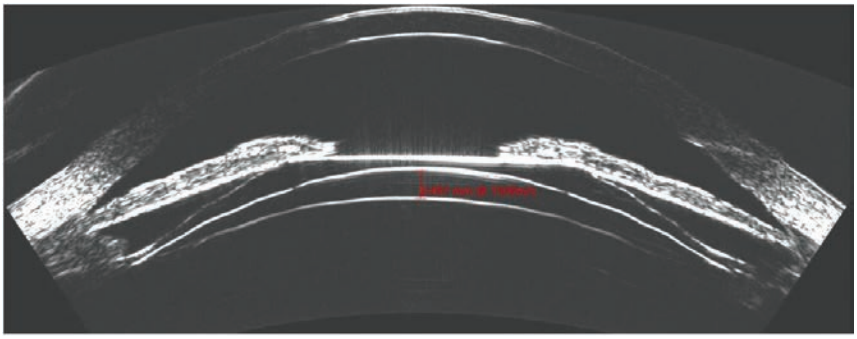
MEASUREMENTS AVAILABLE

- Sulcus to sulcus
- Lens rise
- Lens separation
- True vault
- Effective lens position (ELP)
- Lens volume
- Lens equatorial diameter

CLINICAL BENEFITS

- Evaluate accurate lens position, tilt and volume
- Biometry for pre-op and post-op IOL, premium IOL and ICL



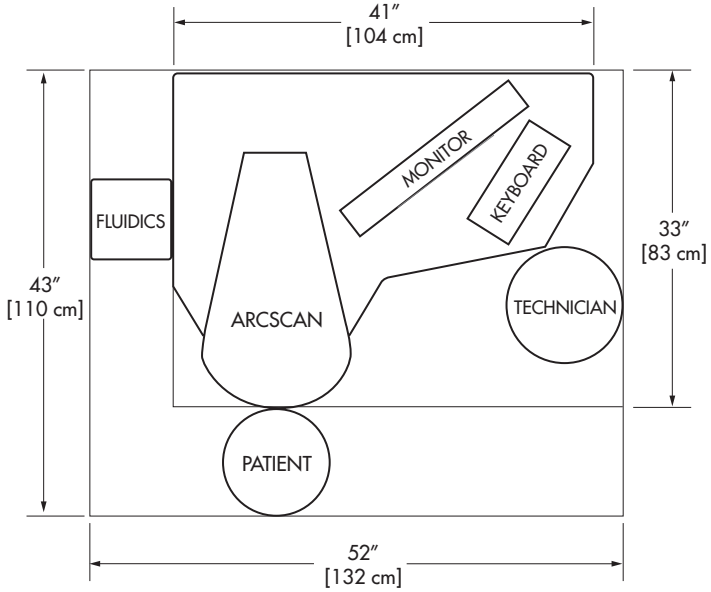


Power Input Requirements

Model AS100-120:	120 VAC, 50/60 Hz, 8 A, single phase
Model AS100-230:	230 VAC, 50/60 Hz, 4 A, single phase

Physical Construction

Dimensions:	140 cm wide x 92 cm deep x 140 cm high (table and saline stand at lowest position)
Weight:	120 kg
Table Height Range:	70-90 cm



Ultrasonic Output Specifications

Frequency:	VHF
Transducer Frequency:	50 MHz
Axial resolution:	35 µm
Axial repeatability (2σ):	1µm or 0.6% of reading
Lateral resolution:	65 µm
Lateral repeatability (2σ):	0.8% of reading
Adjustable arc scan radius:	22 mm to -8 mm (concave arc)
Maximum arc scan range:	70 degrees
Linear scan range:	29mm
Maximum scan rate at maximum scan range:	2 scans/second

Scanner Fluid Capacity and Type

Capacity:	9.5 L
Type:	Distilled water

Operating Conditions

Temperature:	18-28 °C
Humidity:	10-80% relative humidity, non-condensing

Transport and Storage Conditions

Temperature:	0-45 °C
Humidity:	< 80% relative humidity, non-condensing

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