

# Getting fewer refractive surprises.



**ZEISS IOLMaster 700**

[www.zeiss.com/iolmaster700](http://www.zeiss.com/iolmaster700)



Seeing beyond

# 20 years of biometry



2. IOLMaster® 700 from ZEISS with SWEPT Source Biometry® builds upon 20 years of experience in optical biometry – far longer than any other device.

Its latest software update features Central Topography for more insights on corneal shape, and allows you to access biometry data on your mobile device with EQ Mobile® from ZEISS. Once again, ZEISS IOLMaster 700 demonstrates its technological leadership.

**Defining biometry for 20 years.**

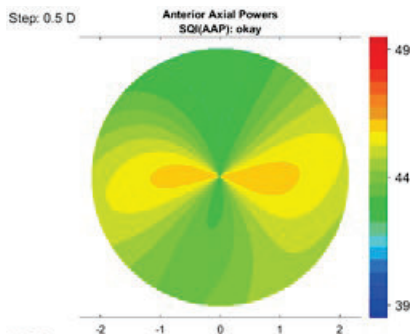
25. **Central Topography:**  
starting your workflow  
with more insights



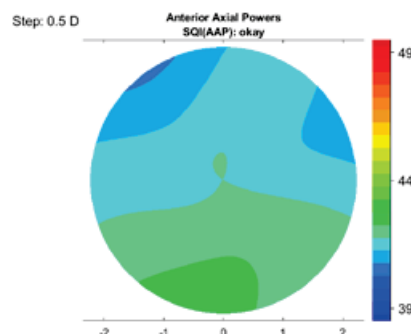
Gain additional information and detect visually relevant asymmetries on central corneal shape with your usual ZEISS IOLMaster 700 measurement:

- posterior and anterior refractive powers taken into account
- no additional hardware needed
- no extra measurement, no extra time
- no changes to the current workflow
- easy and intuitive reading of central corneal shape information
- scaling and hues developed in cooperation with Douglas D. Koch and Li Wang, MD, USA

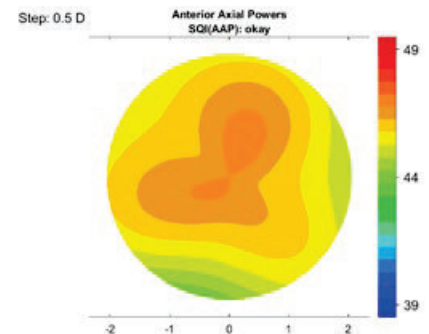
*“ I am amazed at how much information we get from Central Topography. ”*  
Douglas D. Koch, MD, USA



Against-the-rule astigmatism on Central Topography\*



Irregular astigmatism on Central Topography\*



Central steep cornea on Central Topography\*  
(patient with previous hyperopic LASIK/PRK)

\*Interpretation by Douglas D. Koch, M.D., USA

# Streamlining your refractive cataract workflow

## EQ Workplace and EQ Mobile from ZEISS



### **ZEISS EQ Workplace – from IOL calculation to surgical planning**

Connect your ZEISS IOLMaster 700 with the EQ Workplace® from ZEISS. The latest addition to the ZEISS Cataract Suite helps you streamline your refractive cataract workflow. It supports your biometry data review and analysis, IOL calculation and selection, IOL ordering, surgical planning and post-operative data collection.

- Save time during pre-operative processes
- Further protect against never-events
- Access your data from anywhere
- Personalize your IOL constants

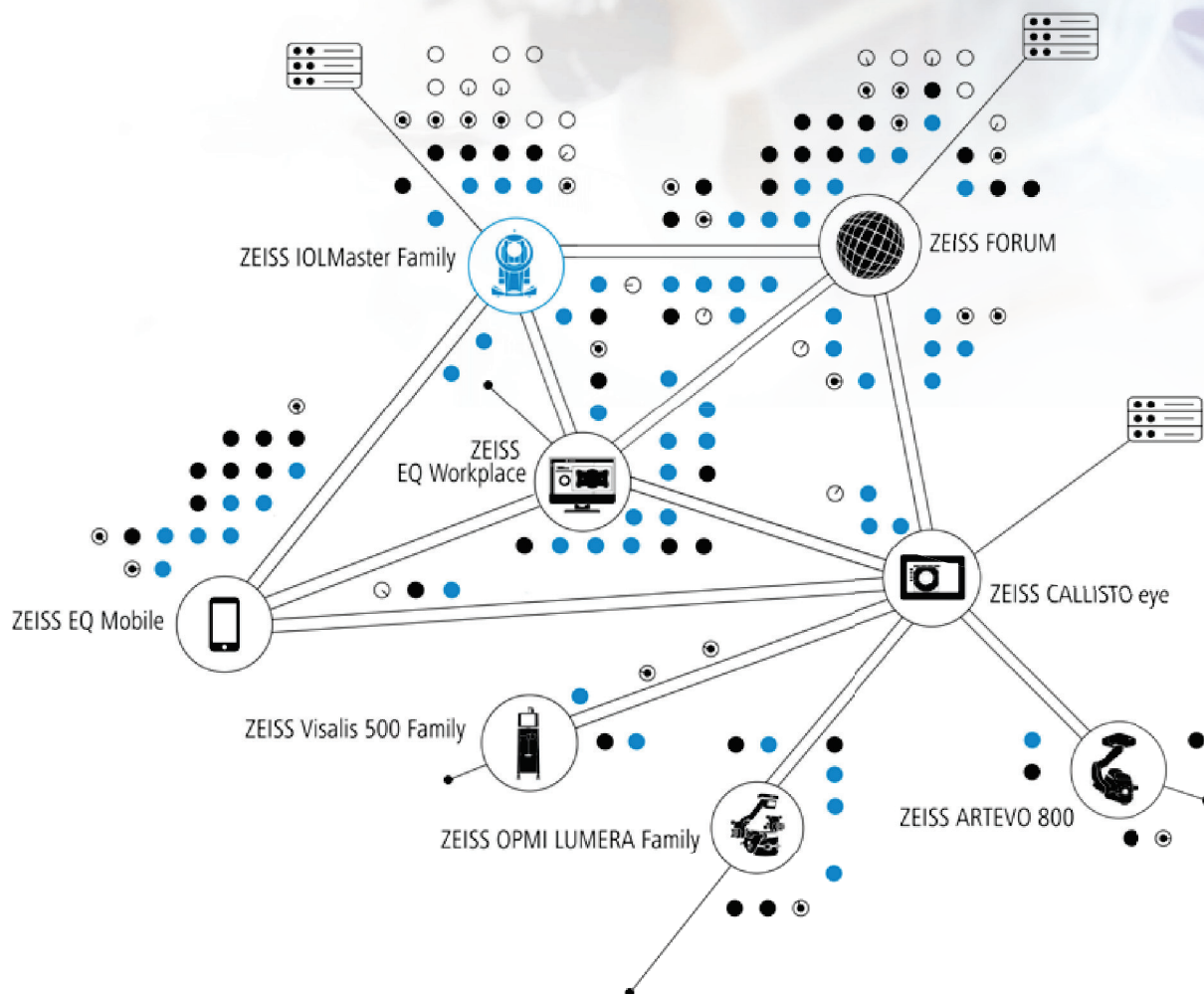
### **ZEISS EQ Mobile – your reports anytime, anywhere**

With the latest ZEISS IOLMaster 700 software you can send your biometry data and scleral reference images via the ZEISS EQ Mobile cloud to CALLISTO eye® from ZEISS for computer assisted surgery. All your data is accessible in the ZEISS EQ Mobile app on your iPhone or iPad. This is particularly useful if you practice at different sites.



## Markerless toric IOL implantation

28. During routine biometry, ZEISS IOLMaster 700 will acquire a reference image in case of astigmatism. The image of the eye is acquired during the keratometry measurement – all with one device. Both reference image and keratometry data can be transferred to ZEISS CALLISTO eye, e.g. together with your surgical planning from ZEISS EQ Workplace. During surgery, the image is then used for intraoperative matching with the live eye image. All data needed is injected into the eyepiece of the surgical microscope OPMI LUMERA® from ZEISS. Preoperative corneal marking and additional measurements for toric IOL alignment thus become obsolete.



**ZEISS Cataract Suite – designed to work together.**

ONLY FROM ZEISS

## Getting fewer refractive surprises

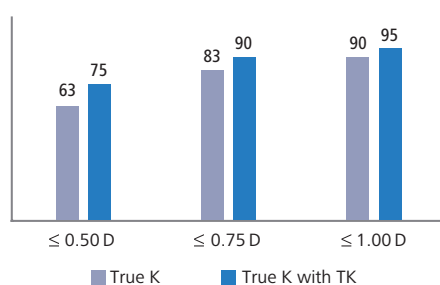


### 24. Total Keratometry – replacing assumptions with measurements

Featuring Total Keratometry (TK®), ZEISS IOLMaster 700 allows you to directly measure the posterior corneal surface using SWEPT Source OCT. Total Keratometry can be used in classic IOL calculation formulas – no need for a second device, third-party software or an online calculator.

In addition, Graham Barrett has developed three formulas exclusively for Total Keratometry: Barrett Universal II TK, Barrett Toric TK and Barrett True K with TK.

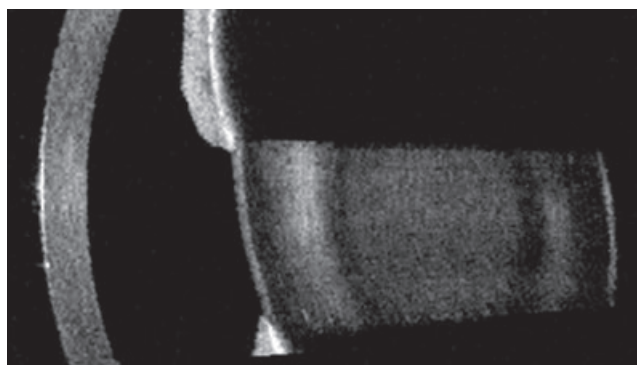
Percentages of eyes within 0.50 D, 0.75 D and 1.00 D of refractive prediction error in previously myopic eyes



In post-myopic LASIK eyes Barrett True K formula with TK improved the outcome prediction compared to the Barrett True K with Classic Ks within  $\pm 0.5$  D by  $>12\%$  ( $p = 0.04$ )<sup>1</sup>

### 3. Detect unusual eye geometries

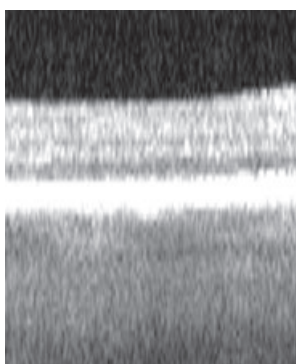
The patented Cornea-to-Retina Scan of ZEISS IOLMaster 700 shows anatomical details on a longitudinal cut through the entire eye. Thus, unusual eye geometries such as tilt or decentration of the crystalline lens can be detected. If left undetected, such critical details can lead to an unsatisfactory post-operative visual experience.



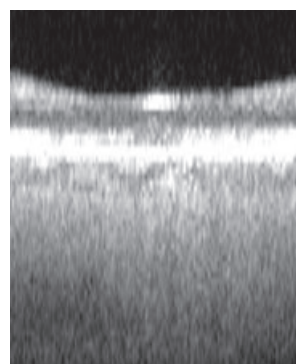
Suspected tilted lens\*

### 3. Detect poor fixation

The unique Fixation Check provides you with more confidence in biometry. Can you see the foveal pit? If so, you can reduce the risk of refractive surprises due to incorrect measurements caused by undetected poor fixation. If not, educate your patients to always fixate on the target.



Poor fixation\*

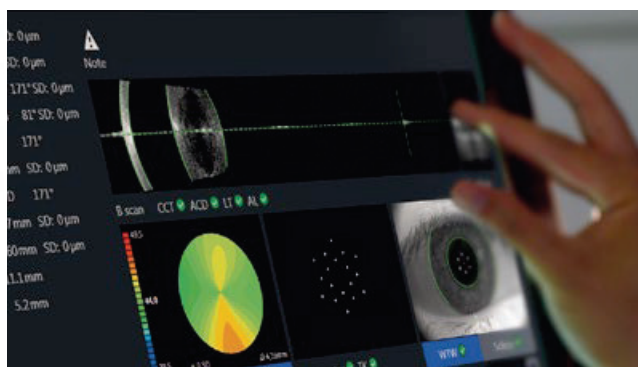


Correct fixation\*

### Visually verify your measurement

All measurement calipers are shown on the patented Cornea-to-Retina Scan allowing you to visually verify what structure has been measured.

The complex interpretation of A-scans is no longer necessary and potential sources of error can thus be eliminated.



### Benefit from the integrated Barrett Suite

The Barrett Universal II, True K and Toric formulas are integrated into one suite. The directly measured posterior surface can be considered by choosing Total Keratometry for all three formulas.



\* Image courtesy of Prof. W. Sekundo, Philipps University Hospital Marburg, Germany



## HIGHLIGHTS

# Optimizing your workflow

### Fast and easy to use

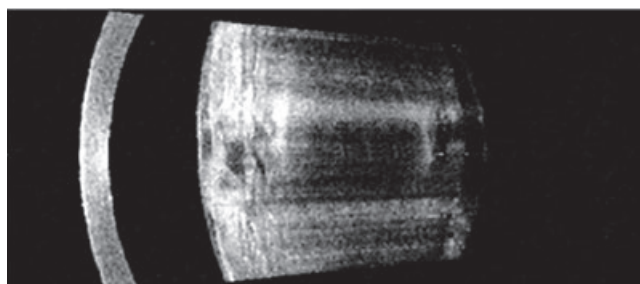
Measure both eyes in less than 45 seconds, thanks to SWEPT Source Biometry.<sup>2</sup> Alignment assistance functions make the results largely independent of the user and therefore easy to delegate.



5. Multi-touch screen

### Up to 99 % cataract penetration rate

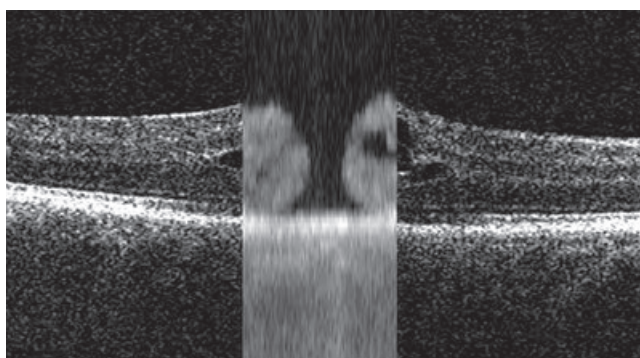
A comparative clinical study with more than 1,200 eyes showed that ZEISS IOLMaster 700 achieves a cataract penetration rate of up to 99 %. As a result, the number of ultrasound cases can be reduced by 92 %, saving you valuable time.<sup>3</sup>



Very dense cataract that was measured successfully\*

### Indications for macular pathologies

Using the Fixation Check you can identify macular pathologies in your daily routine. Although ZEISS IOLMaster 700 clearly is not intended to be used for diagnostics\*\*\*, in high-volume practices the ability to detect these eyes preoperatively can be invaluable.<sup>4,5</sup>



Macular hole: Fixation Check image (middle) combined with ZEISS CIRRUS retina OCT image (via photo editing software)\*\*

\* Image courtesy of Prof. M. de La Torre, DLT Ophthalmic Center, Peru

\*\* Image courtesy of Prof. W. Sekundo, Philipps University Hospital Marburg, Germany

\*\*\* Findings need to be verified and pathologies diagnosed with a dedicated retina OCT

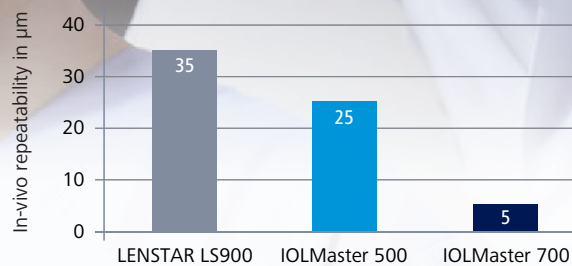


## HIGHLIGHTS

# Improving your refractive outcomes

### Outstanding repeatability

Repeatability is essential for good refractive outcomes. Thanks to its unique SWEPT Source Biometry with 2,000 scans per second, the repeatability of the ZEISS IOLMaster 700 is absolutely outstanding.



Comparison of the repeatability of axial length measurement<sup>6</sup>

### 26. Broadest basis of clinical data

Get the latest optimized lens constants from the new IOLCon<sup>7</sup> database to improve your refractive outcomes. As it incorporates the data from the Group of Laser Interference Biometry (ULIB) database you find optimized IOL constants for more than 300 IOL models that were collected exclusively for the ZEISS IOLMaster. The data can be imported by simply using a USB stick.





## SERVICE

# Benefit from the experienced ZEISS support

### Support whenever you need it

The ZEISS OPTIME service packages available for the ZEISS IOLMaster 700 set new industry standards. They support outstanding system availability over the long term with the backing of dedicated and reliable assistance from an experienced and trusted partner.

### Smart investment – financing with ZEISS

Whether you want to start your own practice, fuel expansion or diversify services, tight budgets are an issue almost everywhere these days. At ZEISS, we can offer you financial solutions tailored to your specific needs. ZEISS financing options cover traditional means of financing medical equipment with leasing contracts and customized full-service contracts.

### IOL power calculation service

Our team of experts supports you with ZEISS IOL calculations. They provide easy-to-read calculation results with comments and IOL suggestions. This service is particularly useful for cases with corneal pathologies or when the biometry is outside of the normal range.



**Maximize your product usage with MyZEISS.**

[zeiss.com/myzeiss](https://zeiss.com/myzeiss)



# Technical data

## ZEISS IOLMaster 700

	<b>Measurement range</b>	10.	Axial length 14 – 38 mm
		11.	Corneal radii 5 – 11 mm
		12.	Anterior chamber depth 0.7 – 8 mm
		13.	Lens thickness 1 – 10 mm (phakic eye) 0.13 – 2.5 mm (pseudophakic eye)
		14.	Central corneal thickness 0.2 – 1.2 mm
		15.	White-to-white 8 – 16 mm
	<b>Display scaling</b>	16.	Axial length 0.01 mm
		17.	Corneal radii 0.01 mm
		18.	Anterior chamber depth 0.01 mm
		19.	Lens thickness 0.01 mm
		20.	Central corneal thickness 1 µm
		21.	White-to-white 0.1 mm
22.	<b>SD of repeatability<sup>8</sup></b>		Axial length 5 µm
			Corneal radii 0.09 D
			Cylinder > 0.75 D, axis 3.8°
			Anterior chamber depth 7 µm
			Lens thickness 6 µm
			Central corneal thickness 2.5 µm
			White-to-white 111 µm
23.	<b>IOL calculation formulas</b>	■ Barrett Suite: Barrett Universal II & Barrett Universal II TK*, Barrett toric & Barrett toric TK*, Barrett True K & Barrett True K with TK	
		■ Haigis Suite: Haigis, Haigis-L, Haigis-T   ■ Hoffer® Q   ■ Holladay 1 and 2   ■ SRK®/T	
28.	<b>Interfaces</b>	ZEISS EQ Workplace	
		ZEISS EQ Mobile	
		28.	ZEISS FORUM eye care data management system
		28.	ZEISS computer-assisted cataract surgery system CALLISTO eye (via USB & FORUM)
		28.	Data interface for electronic medical record (EMR)/ patient management systems (PMS), Holladay IOL Consultant software and PhacoOptics®
		27.	Data export to USB storage media
		29.	Ethernet port for network connection and network printer
31.	<b>Line voltage</b>	100 – 240 V ± 10 %	
	<b>Line frequency</b>	50 – 60 Hz	
	<b>Power consumption</b>	max. 150 VA	
	<b>Laser class</b>	1	

\* Only available with Total Keratometry license

<sup>1</sup> Lawless, M. et al., "Total Keratometry in interocular lens power calculation in eyes with previous laser refractive surgery" Clin Exp Ophthalmol. 2020 Apr 12.

<sup>2</sup> Depending on experience of operator and eye conditions.

<sup>3</sup> R. Varsits, N. Hirnschall, B. Doeller, O. Findl; Increasing the number of successful axial eye length measurements using swept-source optical coherence tomography technology compared to conventional optical biometry; presented at ESCRS 2016.

<sup>4</sup> Hirnschall N, Leisser C, Radda S, Maedel S, Findl O. Macular disease detection with a swept source optical coherence tomography based biometry device in patients scheduled for cataract surgery. JCRS VOL 42, APRIL 2016.

<sup>5</sup> Bertelmann et al.; Foveal pit morphology evaluation during optical biometry measurements using a full-eye-length swept-source OCT scan biometer prototype; European Journal of Ophthalmology, Nov/Dec 2015.

<sup>6</sup> Sources: LENSTAR LS900, HS-Art.No. 1511.7220032.02060, standard deviation (1,σ); IOLMaster 500, Vogel A, Dick B, Krummenauer F: Reproducibility of optical biometry using partial coherence interferometry. Intraobserver and Interobserver reliability. J Cataract Refract Surg, 27: 1961–1968, 2001 standard deviation (1,σ); IOLMaster 700 see technical data.

<sup>7</sup> Access via <https://iolcon.org>

<sup>8</sup> Carl Zeiss Meditec, clinical trial, IOLMaster 700-2015-1



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IOLMaster 700  
CALLISTO eye



OPMI LUMERA  
ARTEVO 800  
EQ Workplace



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**en-005\_32\_010\_01411** Printed in Germany CZ-1/2022 International edition: Only for sale in selected countries.  
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