ALADDIN Series

Optical Biometry & Topography System

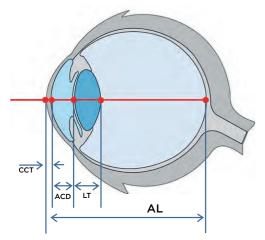


We let you see the complete picture

Today accurate IOL-power calculation is no longer enough. The final optical result and patient's satisfaction are paramount. By incorporating full corneal topography and wavefront analysis of the cornea the ALADDIN addresses the limitations of conventional biometers.

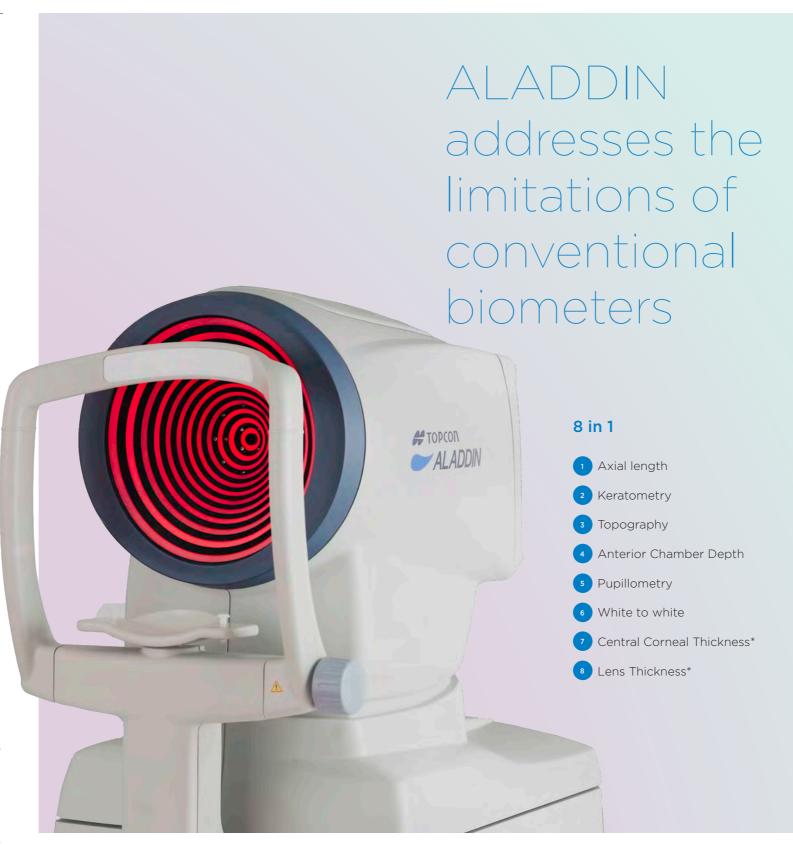
Topcon provides the complete picture with the new ALADDIN and ALADDIN LT (Lens Thickness). ALADDIN supports the surgeon not only in his/her choice of the spherical power of the IOL, but also assists in the choice of the right premium IOL for each individual eye.

Posterior & Anterior interferometry



Biometry results are complemented with anterior topography, Zernike analysis and pupillometry in one fast, accurate and easy acquisition. The Interferometer of ALADDIN also provides anterior measurements such as the Central Corneal Thickness (CCT)*, Anterior Chamber Depth (ACD) and Lens Thickness (LT)*

You get the complete picture for all cataract surgeries. Whether you are performing standard cataract surgery or premium IOL implantation, you will be screening for corneal aberrations, Keratoconus and previous corneal refractive surgery procedures all at once. The ALADDIN only requires just one Acquisition.



ALADDIN fully featured

»Fully integrated patient database

- »Patient search function
- »Input Post op data

»Easy acquisition 8 in 1

»Pre Op input of lens and vitreous body

»Conventional IOL calculation formulas

- »SRK II, SRK/T , Hoffer Q, Holladay 1, Haigis
- »Multiple surgeon pre-settings
- »ULIB database compatible updates
 Customisable Database

»Post refractive IOL calculation formulas

»Camellin-Calossi, Shammas (no history)

»Generic Toric IOL calculation*

- »Toric IOL rotation simulator
- »Dedicated Oculentis setting*

» Topography

- »Full featured corneal mapping
- »Accurate corneal radii
- »Keratoconus probability index*

»Corneal wavefront (Zernike) analysis

- »Selectable maps ranging(pupil size from 2,5 to 7.0 mm)
- »Simulation graphs

»Interferometer graphs

- »Axial length
- »Central corneal Thickness*
- »Anterior chamber depth
- »Lens Thickness

» Pupillometry

- »Dynamic, Photopic, Mesopic
- »Decentralization and Latency graph

»White to white measurement

»Reports

- »To USB, shared folder and printer
- »Topography report
- »IOL report
- »Biometry report (AL, K, ACD, LT*, CCT* WTW)
- »Pupillometry





The ALADDIN was developed with three key points in mind

Speed

Point and shoot acquisition, all necessary measurements are taken in under five seconds. Single measurement are supported for even faster ACD, AL or topography, as well as a separate full pupillometry.

Accuracy

Proven interferometry accuracy combined with new technology for keratometry, provide extremely accurate Axial Length and corneal radii information for precise calculation of IOL spherical and toric powers.

Ease of use

The operator is only three clicks away from printing the ALADDIN report. The 10.1 inch full colour touchscreen monitor is very responsive and comfortable to use. The user-friendly interface guides you through the main functions with ease.





Keratometry / Topography

Full Corneal topography provides much more information than just K-values. Specific data for toric IOL surgery, instantly detects regular and irregular astigmatism. The keratometry provided by the "Placido" rings of ALADDIN is extremely accurate due to simultaneous use of the interferometer.

- »Axial and tangential map
- »Absolute and normalized scale
- » Milimeters or diopters
- "Grid, rings, and 3, 5 and 7 mm zones





Keratoconus screening

The ALADDIN is capable to screen the corneal surface for keratoconus probability. This information provides the surgeon in detail the corneal keratometric indices to assist in making the correct toric IOL selection. The Keratoconus Probability Index is shown in percentage* as well as in colour codes.

Green Not compatible with Keratoconus

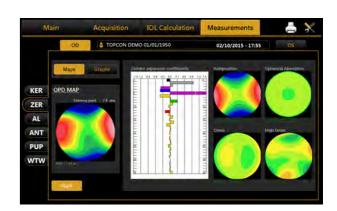
Yellow Suspected Keratoconus

Red Compatible with Keratoconus

Aberrometry analysis (Zernike)

Zernike analysis of the topographic data provides the Optical Path Difference (OPD) and information on astigmatism, spherical aberrations, higher order aberrations and Coma for pupil sizes of 2.5mm to 7.0mm

When using the actual Spherical Aberration provided by Zernike analysis, you can select the appropriate aspherical IOL with standardised spherical aberration correction according to the patient's individual required spherical aberration.

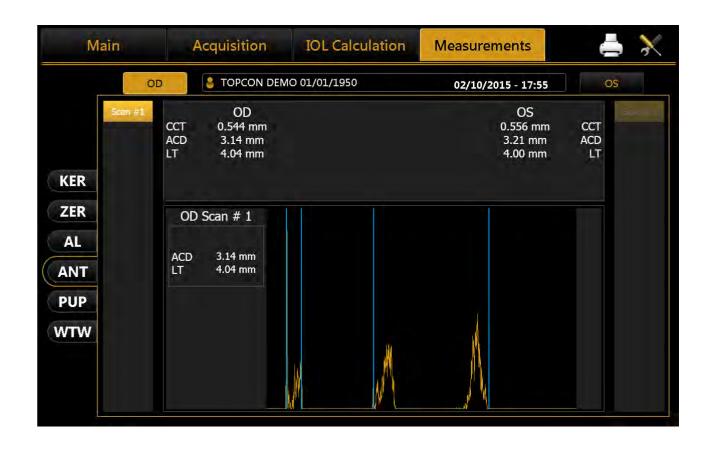




Axial length

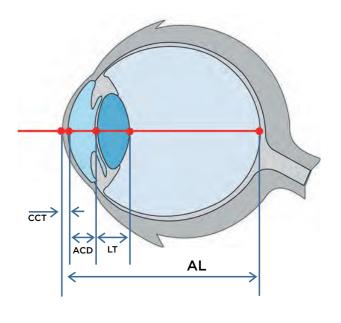
Using a low-coherence interferometry system with a super luminescent diode of 850 nm and signal processing, the ALADDIN achieves Axial length measurement with high signal-to-noise ratio and is able to penetrate even high grade dense cataracts. Axial length measurements can be done on normal eyes as well as on aphakic, pseudo-aphakic and silicone oil-filled eyes.





Anterior biometry

Anterior biometry with the ALADDIN allows measuring the Central Corneal Thickness*, Anterior Chamber Depth and the crystalline Lens Thickness*. Pachymetry is a key feature to measure for all cataract surgery procedures. ACD is measured through interferometry* providing high precision and reproducibility. All interferometry measurements are shown in a graph to make it visible.



* Available in ALADDIN LT only

Pupillometry White to white

Pupillometry

During Placido evaluation pupillary response is observed to assess a pseudo Photopic and pseudo Mesopic pupil size, indicating response and normal range of the pupil. Full pupillometry screening assists to evaluate eyes for multifocal IOL implantation or refractive surgery. For any refractive procedure it is vitally important to diagnose the pupil very carefully in different light conditions, and exclude cases of extreme small or decentered pupils.



- »Dynamic
- »Photopic
- »Mesopic





White to white

ALADDIN measures automatically white to white dimension which can be manually edited. Reliable white to white measurement is used with anterior chamber intraocular lens and sulcus fixated posterior chamber intraocular lens in highly myopic eyes.



IOL & Toric IOL calculation

The ALADDIN guides you through the choice of the right IOL for each patient. A combination of IOL brand, type and formulae can be viewed and compared to various chosen combinations, in order to obtain the best post-operative Visual Acuity result for the patient.

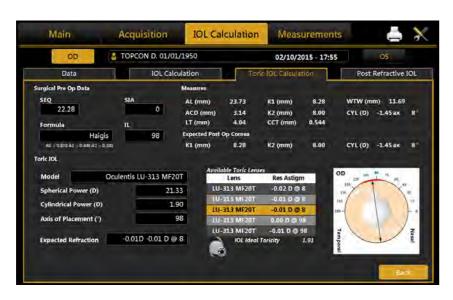
A pre-defined IOL selection can be programmed for each individual surgeon.

When implanting a toric IOL, specific toric calculation software* assist you in calculating the best option.

This integrated toric IOL calculator saves you time and avoid unnecessary mistakes when manually entering data online.

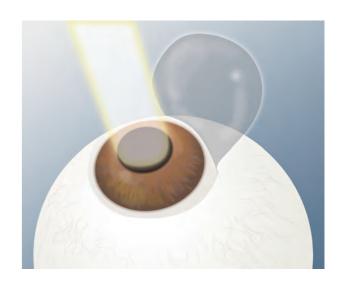
IOL Toric Rotation Simulation Software calculates the induced spherical and cylindrical power for every five degrees toric IOL rotation.





Post refractive IOL

In eyes that have previously undergone refractive surgery such as RK, PRK, Lasik, Lasek, LK and PTK, spherical aberrations are often outside the standard values. In these cases the ALADDIN provide the Camellin Calossi formula. If there is no patient history the Shammas No-history formula can be used for the correct IOL calculation.



Customisable IOL database

The ALADDIN provides a full ULIB database which can be upgraded and customised. You can manually upgrade the A- constant for each individual IOL to obtain even a higher accuracy every time you perform cataract surgery. Your favorite IOL's can be pre-defined and programmed for each individual surgeon, simplifying and personalising IOL selection.



Pre-exam Image and Data Management Advanced Diagnostics Treatment

Connectivity

All biometry, pupillometry and topography data and maps that are generated by ALADDIN can be examined and reviewd in image & data management software.

This image & data management software can be integrated in a network enabled hospital set up for an improved and flexible workflow.

* Available in ALADDIN LT only

Cataract surgery quality control

Topcon's Cataract Workstation





KR-800S

Auto kerato-refractometer with subjective function

- VA check far vision
- 2 VA check near vision
- 3 VA check glare condition
- 4 VA check contrast condition
- 5 Grid test (AMD screening)
- 6 VA simulation Premium IOL

Cataract surgery quality control

Visual acuity (VA) is the most common clinical measure of the quality results of cataract surgery. It is how we describe and measure the success of surgery and it is therefore critical that it is measured well. Measurement of VA must be standardized and systematic. Topcon's KR-800S Auto Kerato- Refractometer with subjective VA check will do exactly that. With the KR-800S the VA can be subjectively tested pre- and post-operative cataract surgery. With the unique features of the KR-800S such as "Glare" test and "Contrast" test you can even evaluate the progression of cataract and distinct Nuclear cataract from Cortical cataract.

VA Simulation Premium IOL

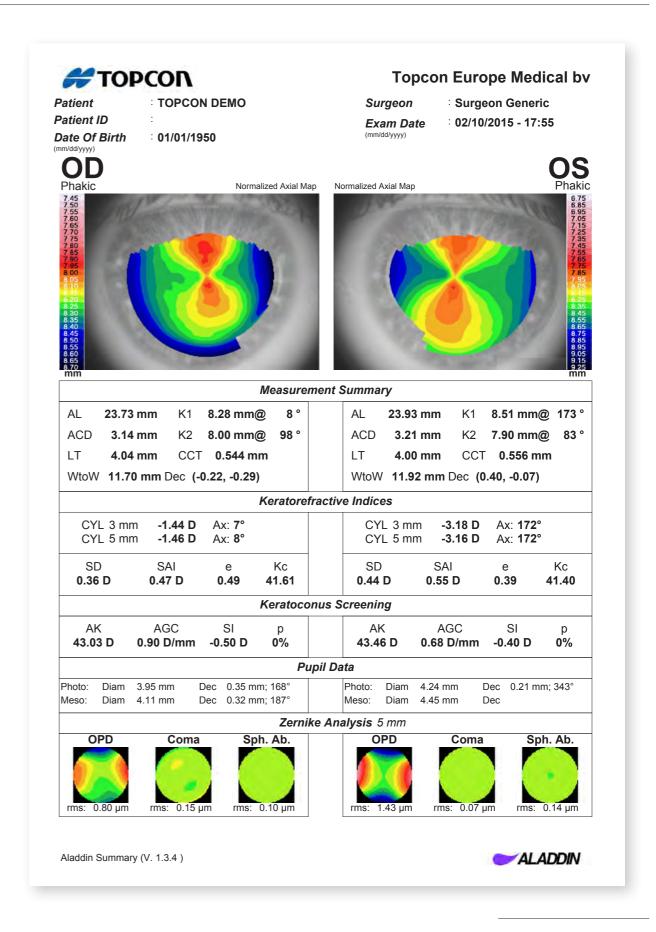
KR-800S offers a Spherical Equivalent mode which can simulate the benefit of a premium (toric) IOL, to convince the patient for reaching even a higher post-operative VA. The subjective VA test for near will help to convince the patient to choose for a Multifocal IOL.

Cataract workstation

The KR-800S completes the screening workflow of cataract surgery. All necessary cataract pre-op information can be obtained by KR-800S and ALADDIN, while the KR-800S assist you post-op in Visual Acuity evaluation and the success of the cataract surgery. ALADDIN and KR-800S the perfect combination for your cataract practice.







#TOPCON

Patient TOPCON DEMO

Patient ID

Date Of Birth 01/01/1950

OD

Phakic

Data Measurements

Aladdin Optical

AL : 23.73 mm K1 : 8.28 mm @ 8° ACD : 3.14 mm K2 : 8.00 mm @ 98° LT 4.04 mm CYL : -1.45 D ax 8°

n: **1.3375**

CCT **0.544 mm**

Target Refraction: 0

	Oculentis L-313		Oculentis LS-313 N	MF30
		K/T		KII
ľ	IOL(D)	REF(D)	IOL(D)	REF(D)
Ī	20.50	0.83	21.00	0.77
ľ	21.00	0.47	21.50	0.37
Ī	21.50	0.10	22.00	-0.03
ľ	22.00	-0.27	22.50	-0.43
	22.50	-0.64	23.00	-0.83
	IOL @ Target 21.64	A = 118.100	IOL @ Target 21.97	A = 118.600

Oculentis Oculentis LU-313 MF30T LS-412Y

	*** 00 1		
На	igis	Hofi	fer Q
IOL(D)	REF(D)	IOL(D)	REF(D)
21.50	0.58	21.00	0.86
22.00	0.21	21.50	0.51
22.50	-0.16	22.00	0.16
23.00	-0.54	22.50	-0.20
23.50	-0.92	23.00	-0.56
10L @ Target 22.28	A0 = 0.870 A1 = 0.400 A2 = 0.100	IOL @ Target 22.22	pACD = 5.070

Oculentis LU-800 RZI

LU-800 F	LU-800 RZI		
Holladay I			
IOL(D)	REF(D)		
19.00	0.90		
19.50	0.52		
20.00	0.13		
20.50	-0.25		
21.00	-0.65		
IOL @ Target 20.17	SF = 0.310		
20.17			

Topcon Europe Medical by

Surgeon SURGEON GENERIC

Exam Date : 02/10/2015 - 17:55

OS

Pha

 Data Measurements
 n: 1.3375

 Aladdin Optical

AL : 23.93 mm K1 : 8.51 mm @ 173 ° ACD : 3.21 mm K2 : 7.90 mm @ 83 °

LT **4.00 mm** CYL : -3.06 D ax 173 ° CCT **0.556 mm**

Target Refraction: 0

Oculentis		Oculentis	4500
L-313		LS-313 N	ИF30
SR	K/T	SR	KII
IOL(D)	REF(D)	IOL(D)	REF(D)
20.50	0.67	21.00	0.62
21.00	0.31	21.50	0.22
21.50	-0.06	22.00	-0.18
22.00	-0.43	22.50	-0.58
22.50	-0.81	23.00	-0.98
IOL @ Target 21.42	A = 118.100	IOL @ Target 21.77	A = 118.600

Oculentis	Oculentis
LU-313 MF30T	LS-412\

Ha	igis	Hofi	fer Q
IOL(D)	REF(D)	IOL(D)	REF(D)
21.00	0.81	21.00	0.72
21.50	0.45	21.50	0.37
22.00	0.08	22.00	0.01
22.50	-0.30	22.50	-0.35
23.00	-0.67	23.00	-0.71
IOL @ Target 22.10	A0 = 0.870 A1 = 0.400 A2 = 0.100	IOL @ Target 22.02	pACD = 5.070

Oculentis LU-800 RZI

	·—·
Holla	day I
IOL(D)	REF(D)
19.00	0.76
19.50	0.38
20.00	-0.01
20.50	-0.40
21.00	-0.80
IOL @ Target	SF = 0.310
19.99	

IOL Calculator (V. 1.3.4)





Patient



OS

Patient Information
Surgeon

TOPCON DEMO SURGEON GENERIC

Patient ID Clinic

Topcon Europe Medical by

Date of Birth Exam Date 01/01/1950 02/10/2015 - 17:55

dd/mm/yyyy dd/mm/yyyy

			Biome	try Data			
AL (mm)	23.93	LT (mm)	4.00	K1 (mm)	8.51	CYL (D)	-3.06@173°
ACD (mm)	3.21	CCT (mm)	0.556	K2 (mm)	7.90	n	1.3375

Surgical Pre Op Data			
SEQ (D)	23.00	SIA (D)	0
Formula	Holladay I	IL (°)	83

Toric IOL

SF = 1

Lens Model

Alcon AcrySof SN6AT6

Spherical Power Cylindrical Power

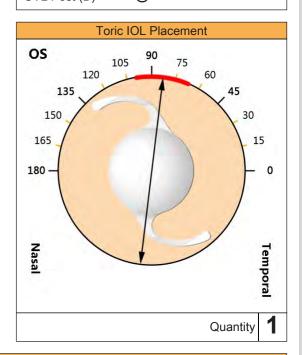
21.50 D 3.75 D

Sph. Equiv. Power Axis Of Placement

23.38 D 83°

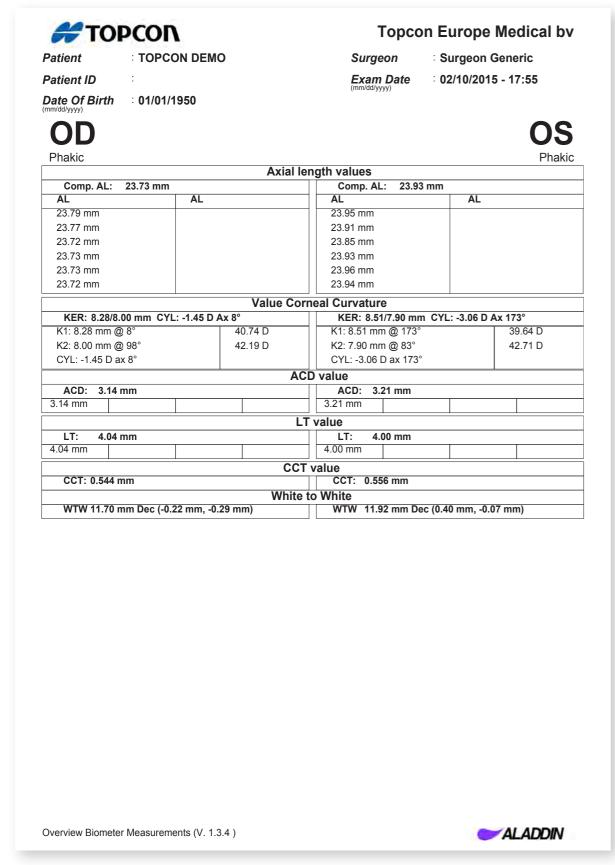
Expected Refraction -0.02D -0.44 D @ 173°

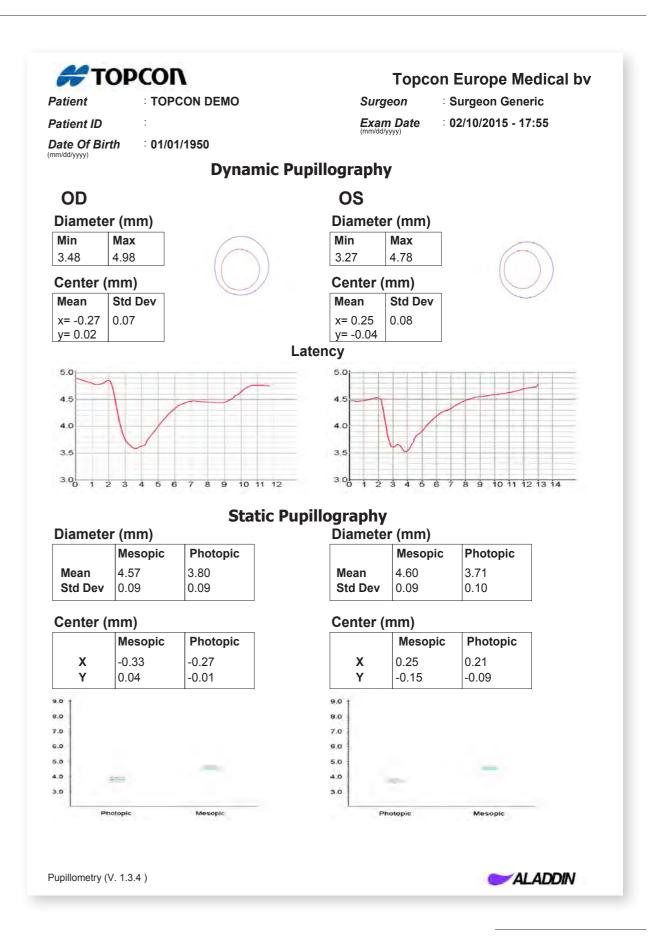
Lens	Residual Astigmatism
AcrySof SN6AT4 (22.00D 2.25C)	-1.48 D @ 173°
AcrySof SN6AT5 (21.50D 3.00C)	-0.96 D @ 173°
AcrySof SN6AT6 (21.50D 3.75C)	-0.44 D @ 173°
AcrySof SN6AT7 (21.00D 4.50C)	-0.08 D @ 83°
AcrySof SN6AT8 (20.50D 5.25C)	-0.60 D @ 83°



Notes

1.0.0





Measurement range for IOL							
Axial Length (Interferometry)	Super lumine	scent diode 850Nm, 15 mm - 38 mm					
Corneal Radii	3,3 mm	n - 37,5 mm / 9,0 dpt - 101,5 dpt					
ACD measurement	slit illumination 1,5 mm - 5,5 mm	interferometer 1,5 mm - 5,5 mm					
WTW measurement		6,0 mm- 18,0 mm					
Pupillometry	Dynamic, Photog	oic & Mesopic, pupil size 0,5 mm - 10 mm					
Lens Thickness (interferometry)	×	0,300 mm - 0,800 mm					
CCT measurement (interferometry)	×	0,300 mm - 0,800 mm					
On-board calculation formulas							
IOL formulas	Haigis, Hoffer Q, Holladay 1, SRK*II & SRK*T						
Post Refractive Surgery IOL formulas	Camellin Calossi & Shammas No History						
Placido Topography specifications							
Keratoscopic Cone (topographic map)	24 rings on a 4	3 dpt sphere, working distance 80 mm					
Points analysed		over 100.000					
Points measured		over 6.200					
Cornea coverage	up to Ø 9,8 mm (d	on a 8 mm sphere) 42.2 dpt with N=1.3375					
Guided focus system		✓					
Keratoconus screening							
Apical Curvature		✓					
Apical Gradient of Curvature		✓					
Symmetry index	✓						
Kpi (Keratoconus probability index)	×	✓					
Software features							
Toric IOL calculator	×	Generic Toric IOL, Oculentis Toric IOL					
Zernike analysis	Р	upil size 2,5 mm - 7,0 mm					
Print to	USB printer, Network printe	r, PDF to shared network folder & PDF to USB drive					
Instrument Specifications							
Display		10.1" touch screen					
Storage	320 GB HDD	320 GB HDD + 32 GB SSD					
Operating system	V	Vindows 8 Embedded OS					
Processor		AMD G-T56N					
Internal memory		2GB RAM					
Power input		AC 100 - 240V 46-63 Hz					
Dimensions	320 mm	(W) x 490 mm (H) x 470 mm (L)					
Weight		18 kg					
Connections		1 x LAN, 2 x USB					
Supports	USB Barcode so	canner, External USB keyboard / mouse					
Marking	CE, ETL, FDA	CE, ETL					
Reports							
Aladdin report		✓					
Measurement overview		✓					
Pupillometry		✓					
IOL		✓					
Generic Toric IOL	×	✓					
Oculentis Toric IOL	×	√					



Subject to change in design and/or specifications without advanced notice.

In order to obtain the best results with this instrument, please be sure to review all user instructions prior to operation.



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