OCULUS
Pentacam®
Pentacam® HR
Pentacam® AXL
Anterior Segment Tomography

![OCULUS logo] OCULUS®

OCULUS Pentacam® / Pentacam® HR / Pentacam® AXL

The gold standard for anterior segment tomography

Since its introduction in 2002 the OCULUS Pentacam® has proven to be an indispensable tool for ophthalmologists, clinicians and surgeons committed to providing precise diagnostics and successful treatment.

Efficient preliminary and follow-up examinations

In a single delegable step the OCULUS Pentacam® measures the entire anterior eye segment independent of an existing tear film. From the high-resolution Scheimpflug images it calculates a motion-corrected 3D model.
The Pentacam® AXL additionally performs axial length measurements with contact-free optical biometry from the corneal surface to the retina.

Comprehensive analysis

As the basis for precise keratometry, a prerequisite for IOL calculation, and for detection of corneal ectasia and irregularities as well as wavefront calculation, the Pentacam® provides a complete description of the entire cornea (pachymetry as well as elevation and curvature data).

Scientifically reliable screenings

To perform quick and reliable glaucoma screenings the OCULUS Pentacam® determines anterior chamber volume, angle and depth automatically and then compares the values in the Fast Screening Report with a normal and a pathological population.

Reliable values for your diagnoses

Using blue light, the OCULUS Pentacam® makes opacities of the cornea, the crystalline lens and IOLs visible so that corneal diseases are detected reliably and cataract progression can be assessed objectively.
The Pentacam® HR and Pentacam® AXL stand out by virtue of their bright optics, which make for extremely sharp, highest-quality Scheimpflug images.

Testimonials of satisfied international Pentacam® users

"I cannot imagine any cornea or refractive surgery without a pre and post-op Pentacam® examination."

Dr. Paolo Vinciguerra, MD, Italy

"I have been using the Pentacam® since its inception. I could not imagine taking a refractive patient into surgery without a full tomographic examination. It is the single most important piece of diagnostic equipment in our laser suite. I consider it an indispensable part of my practice."

Dr. Michael W. Belin, MD, USA

"Since the first day I found the Pentacam® to be very reliable and essential for screening refractive candidates for ectasia risk. The Pentacam® is also very important for evaluating patients for corneal diseases, cataract and glaucoma."

Dr. Renato Ambrósio Jr, MD, PhD, Brazil

"In my opinion, the Pentacam® HR is a very useful device for screening before cataract surgery especially for premium IOLs. A detailed assessment can be performed to select the optimal IOL for the respective patient. Especially for toric IOL implantation, the influence of the posterior cornea can be assessed with the Pentacam®."

Dr. Naoyuki Maeda, MD, Japan

"Curvature measurement precision with Pentacam® HR has proved to be better than other tomographers and autokeratometers."

Dr. Jaime Aramberri, MD, Spain

*"The Pentacam® is a must for anyone performing cataract or refractive surgery. No other instrument provides more clinically relevant information." ***

Dr. Tobias Neuhann, MD, Germany

The Register

| Automatic measurement activation, Functions at a glance	Fast Screening Report, General Overview, Topography, Compare Exams	Belin/Ambrósio Enhanced Ectasia Display, Keratoconus staging and progression, Corneal Optical Densitometry, Fourier Analysis, Corneal Rings	Cataract Pre-OP Display, Corneal Power Distribution, Zernike Analysis, PNS and 3D Cataract Analysis, IOL power calculation	CSP Report, 3D pIOL Simulation and Aging Prediction, Contact Lens Fitting	Software overview, Networkability
Basic principles	Screening	Refractive	Cataract	More software	Configuration & Tech.

Anterior Segment Tomography

Fast, reproducible, delegable

Thanks to automatic measurement activation the Pentacam® gives you an overall view of the anterior eye segment in two seconds. Measurements are made independent of tear film and examiner. The Pentacam® HR evaluates up to 138 000 measuring points.

Anterior and posterior corneal surface

Crystalline lens

Iris

Anterior chamber

The most important functions at a glance:

- Topography of anterior and posterior corneal surface
- Full-surface pachymetry
- Early ectasia detection
- Keratoconus staging and progression
- 3D anterior chamber analysis
- Fast Screening Report with data for crucial parameters
- Normative corneal wavefront data
- Total Corneal Refractive Power (TCRP)
- 3D densitometry of the cornea and the crystalline lens
- Contact lens fitting software
- Anterior segment tomography
- Zernike and Fourier Analysis
- Measurement of the cornea scleral profile (CSP Report, not available for Pentacam® AXL))
- Axial length measurements (Pentacam® AXL only)
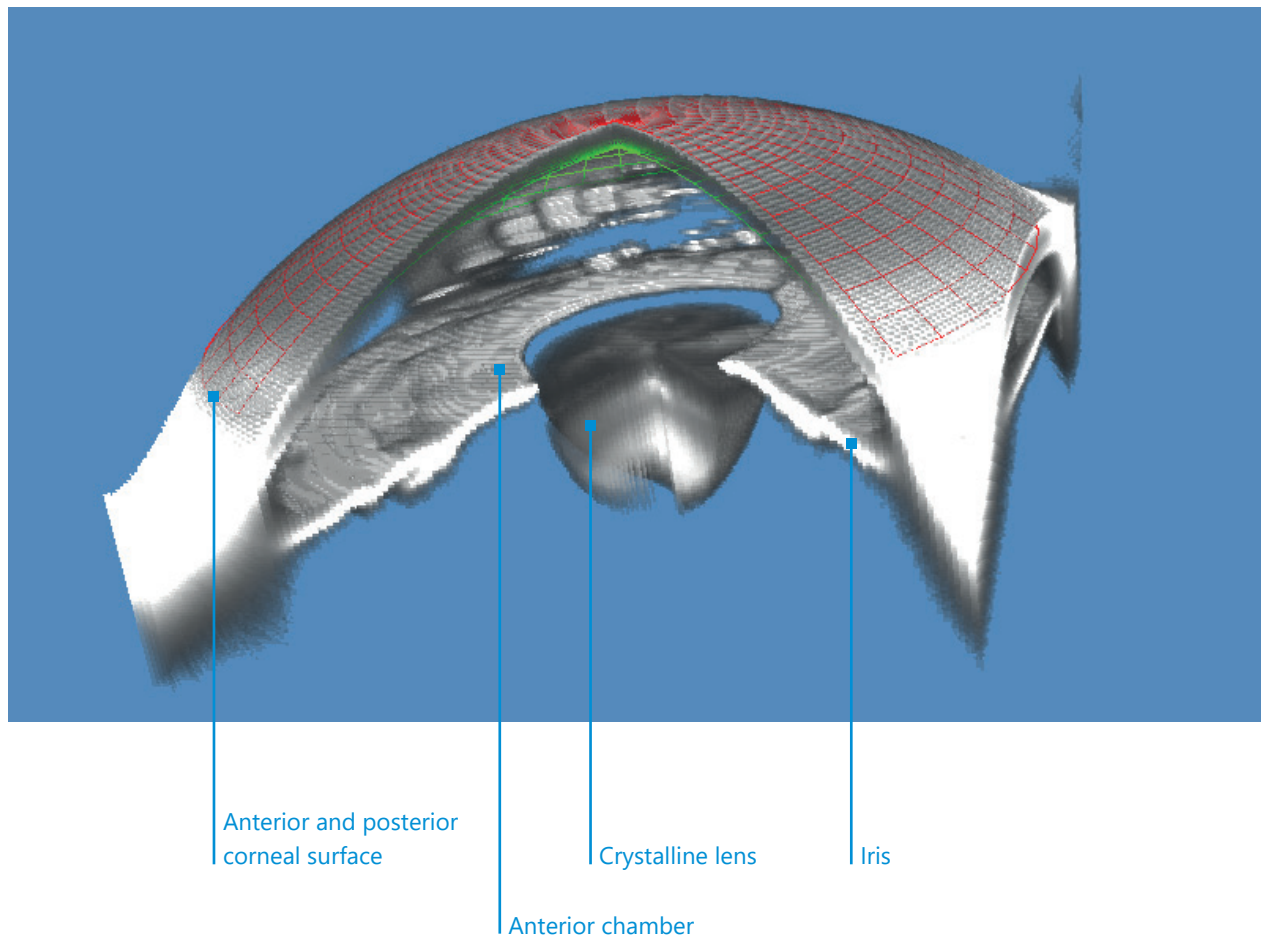
The Pentacam®: Indispensable for you and your patients

Before the surgery my doctor explained what the Pentacam® examination involved. I was amazed that I was still even able to see at all with such a clouded lens!

I simply didn't want to wear spectacles anymore! During the pre-op examination the Pentacam® results gave me certainty.

My risk of developing glaucoma was detected by my ophthalmologist early on. He was able to initiate appropriate measures immediately.

Cataract

Benefit from simple, comprehensive corneal screenings. Fast Screening Report, early detection of ectasia according to Belin/Ambrósio and evaluation of corneal optical densitometry.
The Cataract Pre-OP Display provides an overview of all criteria for reliable selection of a phacic or Premium IOL. The IOL Calculator allows calculating IOLs for treated as well as untreated corneas, giving due consideration to posterior surface measurements and total corneal refractive power. Prof. Olsen's Ray-Tracing formula also allows calculating difficult cases, such as with irregular corneal geometry.

Refractive assessment

The Belin/Ambrósio Enhanced Ectasia Display supports you in early detection of corneal ectasia. A final parameter is calculated and represented in colour. This is how the Pentacam® software assists you in making diagnoses.
Keratometry, asphericity and full-surface pachymetry assist you in planning refractive surgery. The Pentacam® measures irregular corneas with great precision, presenting the necessary parameters in a clear and application-oriented fashion. This ensures reliable planning for implantation of corneal rings, CXL and cornea transplantations.
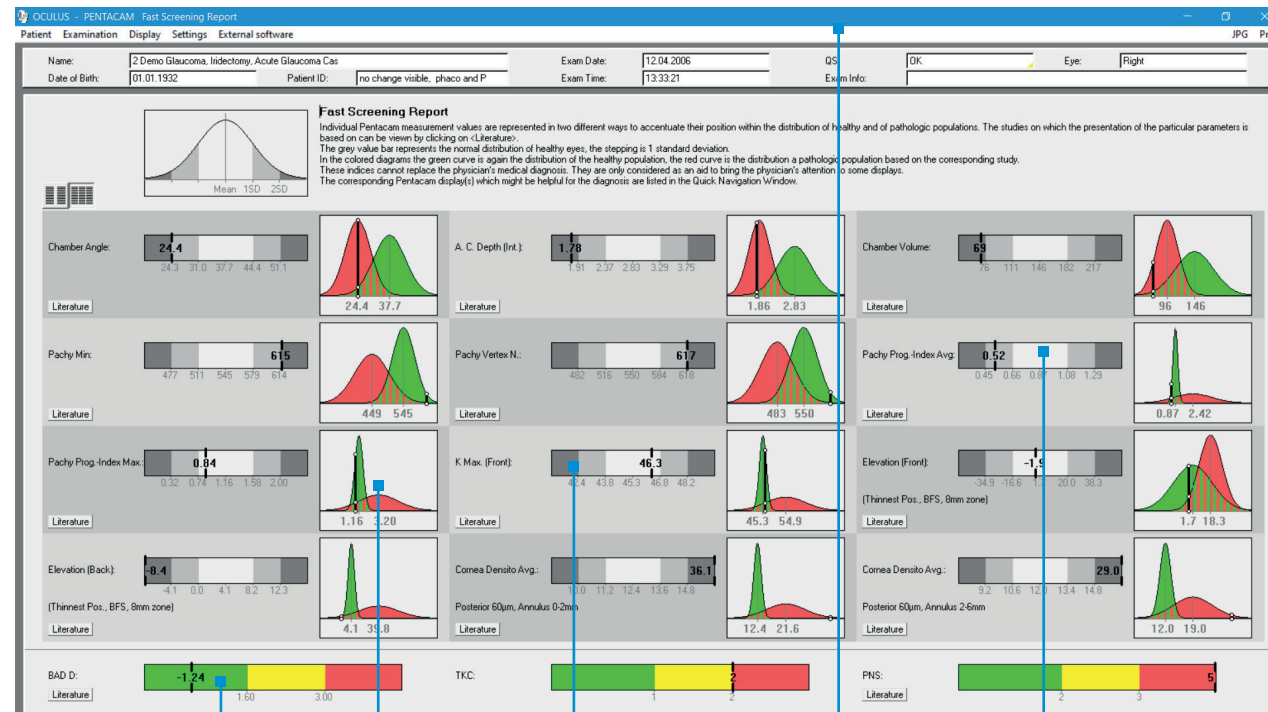
Glaucoma

Glaucoma is one of the most common eye diseases. The Fast Screening Report supports in the detection of anterior chamber abnormalities. Make use of the evaluation of anterior chamber angle and volume based on published papers and clinical pictures. In particular, studies* have identified automatically calculated anterior chamber volume as a sensitive parameter.

---

*   Assessment of the anterior chamber parameters after laser iridotomy in primary angle close suspect using Pentacam® and gonioscopy; Alireza et al; Int J Ophthalmol, 2013, 6(5):680-684
    Comparison of scheimpflug imaging and spectral domain anterior segment optical coherence tomography for detection of narrow anterior chamber angles; Grewal et al; Eye Vol.: 25

General Screening

Filter, evaluate, represent

The great challenge in clinical routine is filtering, evaluating and representing data in a clear-cut way. This is exactly what the Fast Screening Report does. The crucial data are represented in such a way that you can gain a comprehensive picture of your patient at a glance.

Early detection of corneal ectasia

Individual patient value

Distribution in normal population

Distribution of a normal (green) and a pathological (red) population

Interactive navigation bar

Fast Screening Report

- Data are gathered from published studies and stored in the Pentacam® software.
- The distribution of normal values in a population is represented by the bars shaded in grey.
- The diagrams show the distribution for normal (green) and pathological (red) eyes.
- Sources which the evaluations are based on are cite to provide additional information.
- In cases of irregularities the individual displays for detailed findings appear in the interactive navigation bar.

Screening and follow-up exams ensure safety

After initial information has been provided by the Fast Screening Report additional displays show further, case-specific information. Depending on the irregularities the interactive navigation bar recommends displays which lead you to suitable detailed analyses – custom-tailored to the individual patient.
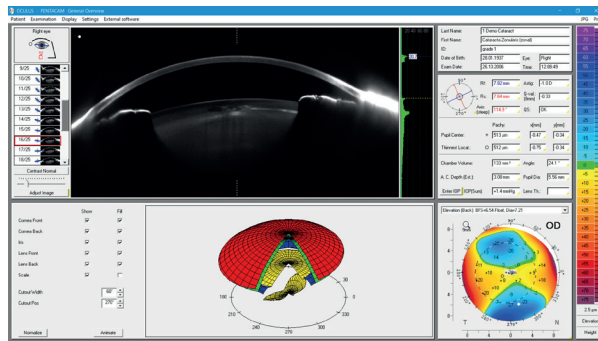

General Overview

The Scheimpflug images allow you to make a qualitative assessment of the anterior eye segment. Opacities of the cornea or the crystalline lens are represented impressively. Keratometry, pachymetry and asphericity allow for an initial analysis of the cornea. The anterior chamber is defined by chamber volume, angle and depth. Intraocular pressure is corrected on the basis of central corneal thickness.
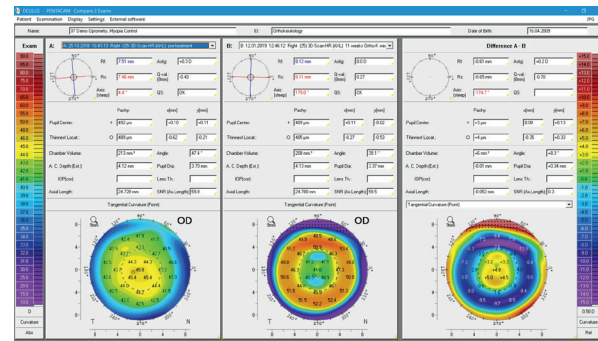
Compare 2 Exams

The comparative displays in the Pentacam® software allow following up on screenings, performing pre-op to post-op differential analyses and illustrating one's explanations to patients. All Pentacam® colour maps are available for comparison. There is one display for comparing two and another for comparing four examinations.
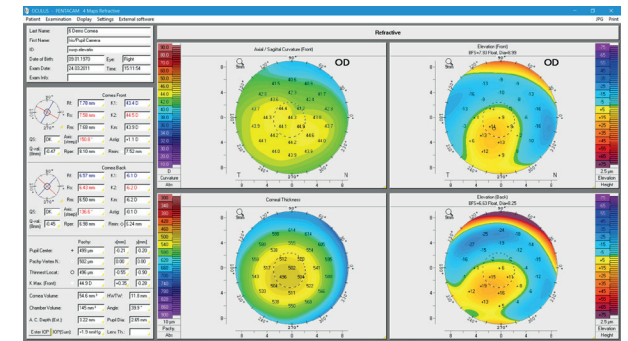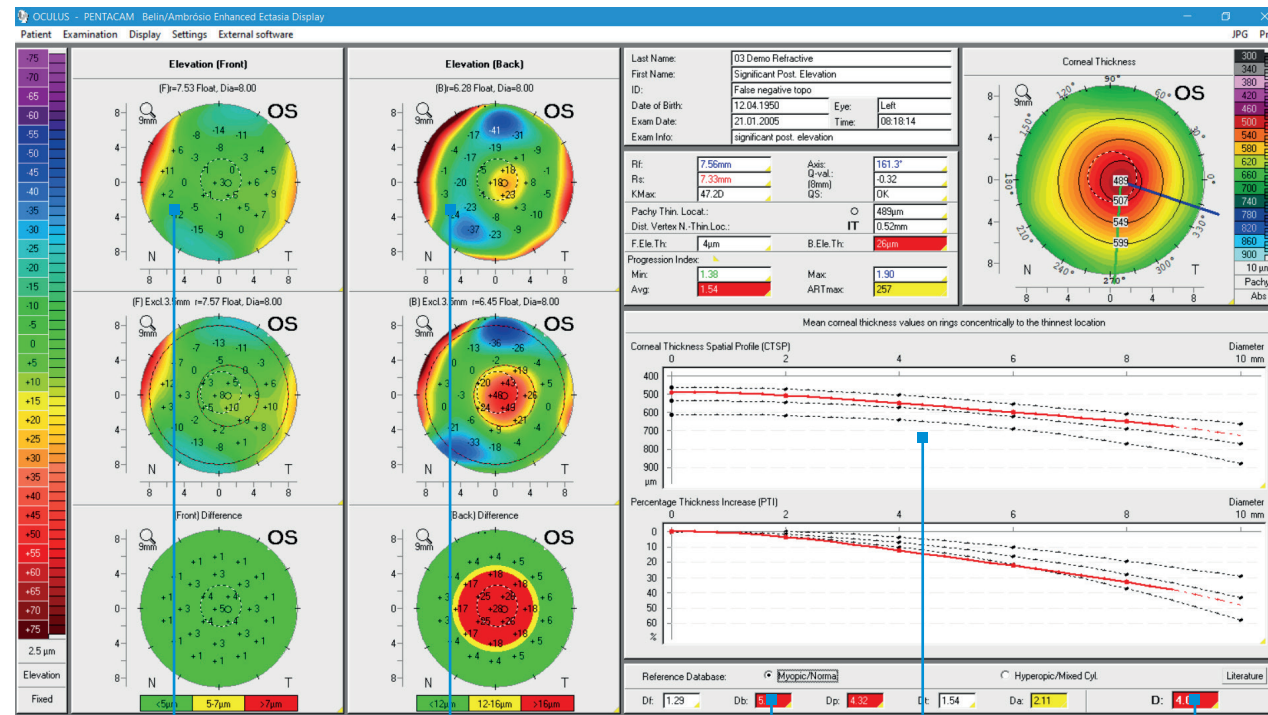
4 Maps Refractive

Topography and elevation maps make quantitative assessments of the corneal surface possible. Especially the posterior elevation map shows pathological changes very early on. The corneal thickness map clearly shows the thinnest position to help you plan refractive surgery, for example.
Combining elevation data of the anterior and posterior corneal surface, topography and pachymetry will help you detect abnormalities early on.

Ectasia Screening

Early ectasia detection

The Pentacam® is equipped with intuitive and user-friendly software features to ensure patient safety and help physicians select the best options for optimal results.


Belin/Ambrósio Enhanced Ectasia Display

In addition to keratoconus detection this screening is geared towards early detection of ectasia. Using this program structural pachymetric progression and the anterior and posterior corneal surface are evaluated. It also has a database for myopic and hyperopic eyes. All the individual parameters are consolidated in one final factor based on regression analysis.

The individual parameters and the final factor are represented in the colours white, yellow and red to indicate the degree of abnormality.

Calculation and analysis of standard and enhanced anterior elevation maps

Calculation and analysis of standard and enhanced posterior elevation maps

Deviation of individual parameters from normal data

Pachymetric progression

Final factor for early detection of corneal ectasia

Keratoconus staging and progression assessment

The Pentacam® assists you with state-of-the-art software modules for efficient keratoconus staging and progression.
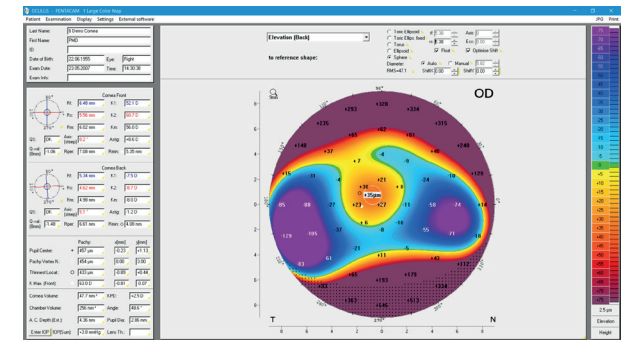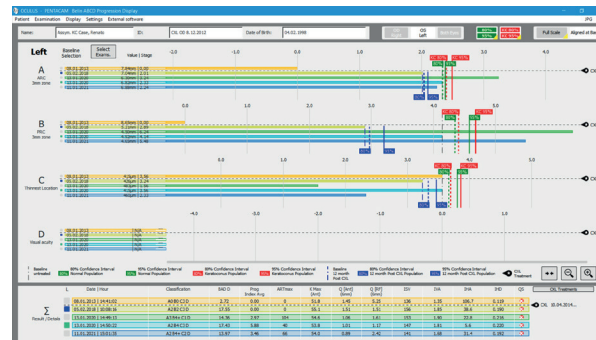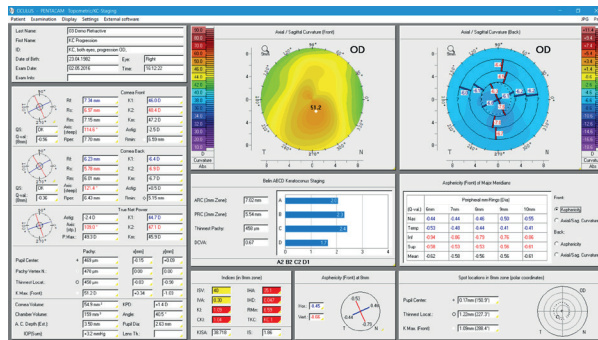
Topometric/KC Staging

The Topometric/KC Staging display contains the Belin ABCD Keratoconus Staging system, a classification method developed by Prof. Michael Belin, USA[1]. It shows all parameters at a glance, including the posterior corneal surface and the thinnest pachymetric values. This staging system can also be used retrospectively for classification of a patient's earlier examination data.

Belin ABCD Progression Display

The evaluation is based on the Belin ABCD Keratoconus Staging module and can also be used retrospectively. Four different parameters are represented graphically for easy determination of any progression or regression trend (following crosslinking). Changes found are shown with confidence intervals representing normal or pathological populations.
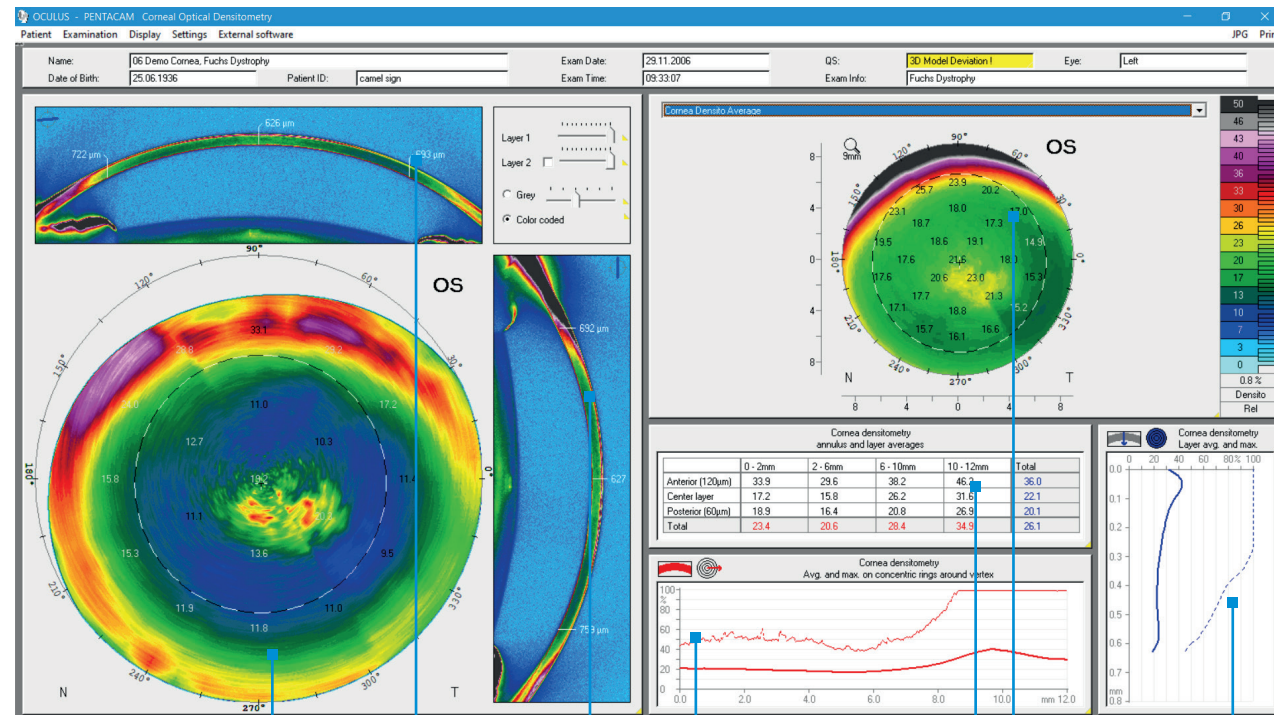
1 Large Color Map

This display can be used, amongst other purposes, to separately view the posterior elevation map calculated from the internal 3D model of the Pentacam® software. This is made possible by superimposing a reference surface onto the posterior corneal surface, bringing its irregularities into clearer view.

---

1   Global consensus on keratoconus and ectatic diseases; Gomes JA1, Tan D, Rapuano CJ, Belin MW, Ambrósio R Jr, Guell JL, Malecaze F, Nishida K, Sangwan VS; Group of Panelists for the Global Delphi Panel of Keratoconus and Ectatic Diseases; Cornea. 2015 Apr; 34(4): 359-69.

Refractive Screening

Planning refractive laser surgery

Corneal assessment involves more than mere topography. It rather calls for a holistic evaluation. The Pentacam® represents pachymetric progression, allowing for an evaluation of corneal structure. Corneal optical densitometry facilitates targeted slit lamp examinations that enable you to detect diseases early on.

Corneal densitometry of selected layer

Horizontal Scheimpflug image

Vertical Scheimpflug image

Graphs for average and maximum densitometry of selected layer

Average or maximum densitometry map

Densitometry values of different layers and ring segments

Graphs for average and maximum densitometry of selected ring segment

Corneal Optical Densitometry

Panorama images of the cornea make corneal diseases visible. This allows for objective quantification and follow-up. Optical densitometry can be evaluated using a table or a colour chart. In the table the measured values are represented according to various zones and layers. Corneal optical densitometry results are displayed in reference to published age-related normative data. This provides a basis for the detection of other diseases such as Fuchs' Dystrophy.

Assess the entire cornea qualitatively and quantitatively

The Pentacam® measures the entire cornea from limbus to limbus non-invasively. This ingenious method is unaffected by an existing tear film and guarantees accurate measurements of the corneal centre. It provides a structured representation of all the parameters crucial for planning refractive surgery.
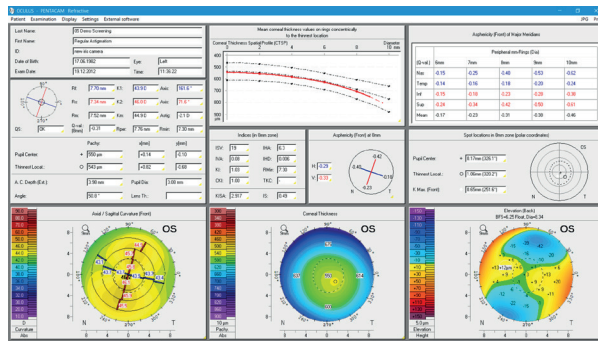
Refractive

This display provides a neat overview of all parameters important to the refractive surgeon. It shows pachymetry progression as well as anterior corneal curvature and the corneal asphericity.
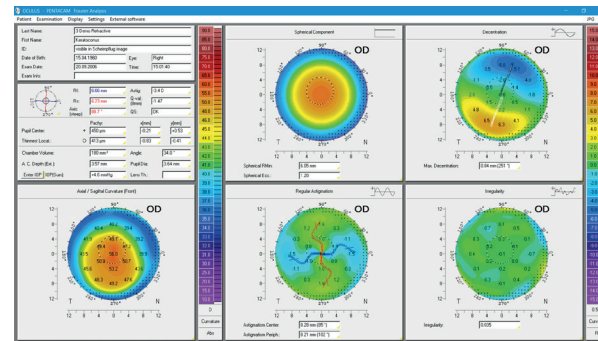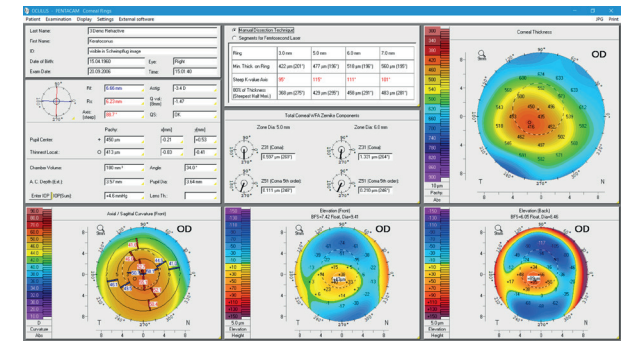
Fourier Analysis

The refractive power of the front surface of the cornea consists of different components. The Fourier Analysis identifies four of them:

- Spherical component
- Decentration
- Regular astigmatism
- Irregularities

Pathological changes can be quantified and possible effects on visual acuity can be explained.

Corneal Rings

This display shows all the parameters necessary for planning corneal ring implantation. Dependent on the selected surgical procedure – manual dissection technique or femtosecond laser – corneal thickness is represented in specific areas and segments.

Easily Find the Perfect IOL, Premium IOL or ICL

Fine-tune your patient's vision

The Pentacam® calculates the TCRP (total corneal refractive power) of the entire cornea using ray tracing.
The Cataract Pre-OP Display summarizes all data relevant to your decisions in selecting toric, aspheric, multifocal, or standard IOLs for your patients.

Cataract Pre-OP Display

The Cataract Pre-OP Display was developed in collaboration with Prof. Dr. Naoyuki Maeda from the University Medical School in Osaka, Japan.
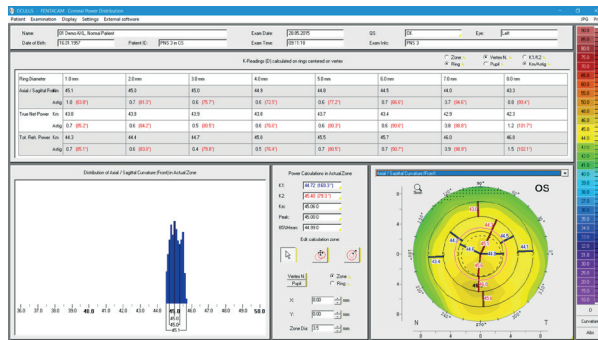
This display assists users in:

- Cataract pre-op screening
- IOL selection incl. premium IOL
- IOL power calculation
- Determining criteria for ICL selection
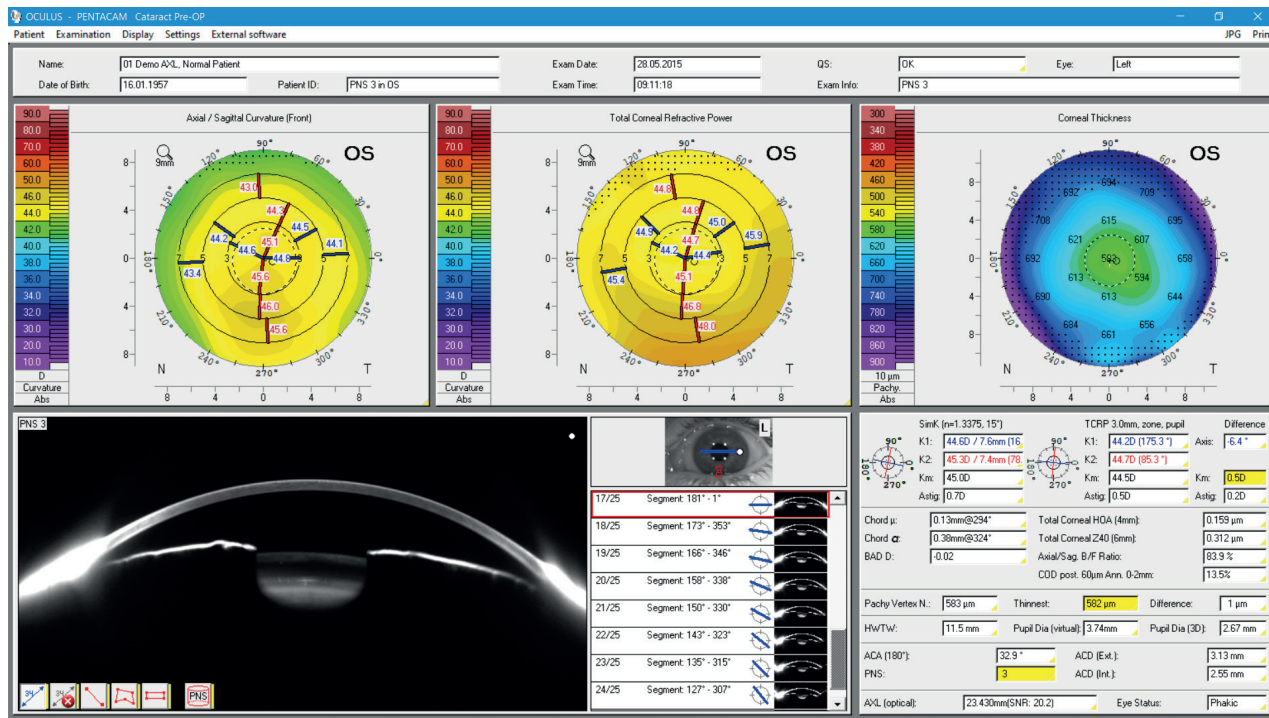
Preoperative diagnostics is your success concept

For documentation of cataract progression and optimal surgery planning the Pentacam® provides cataract surgeons with comprehensive analysis options.


Corneal Power Distribution

The table shows the refractive power of the cornea in various zones and rings. This allows for individual assessment of the posterior corneal surface influence on the total corneal power, astigmatism and axis.
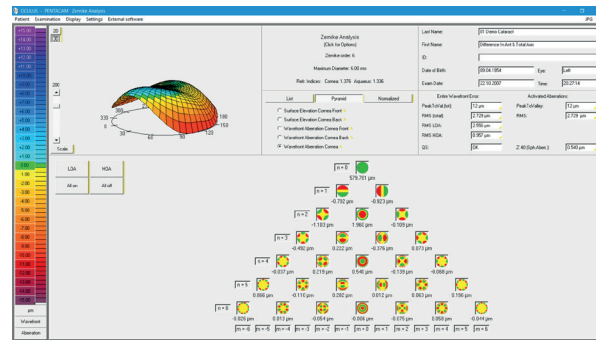
Zernike Analysis

The wavefront error of the cornea as a whole is calculated individually using ray tracing. Higher order aberrations are calculated and represented in comparison to a normal population.
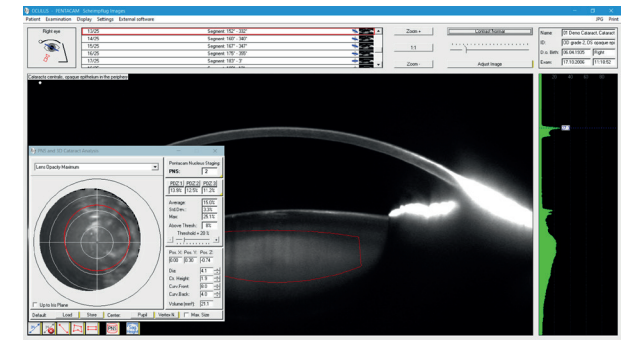
PNS and 3D Cataract Analysis

Through blue-light illumination opacities of the natural lens become visible. Two- and three-dimensional quantification of lens opacification in the individual layers and of posterior capsular opacification is performed. The PNS (Pentacam® Nucleus Staging) function permits optimized ultrasonic energy output in phacoemulsification as well as optimized effective phaco time (EPT) in Femto assisted cataract surgery.

IOL Power Calculation

IOL power calculation for virgin and post corneal refractive eyes

The IOL Calculator provides different formulas for virgin and post corneal refractive eyes. Spheric, aspheric, multifocal and toric IOLs are included in the database. The data of the implanted IOL as well as the post-op refraction can be stored with only two clicks. The software also includes IOL constant optimization (Prof. Wolfgang Haigis).

Axial length

SIA and target refraction SEQ

Automatic plausibility check

Implanted and stored IOL and surgery data

IOL power calculation

Post-op refraction data for IOL constant optimization

TCRP for toric IOL power calculation

Toric IOLs can be calculated based on the individual SIA (surgically induced astigmatism) and TCRP. The latter takes the posterior corneal surface into account, improving the accuracy of IOL power calculation[1]. Included formulas: Hoffer Q, Holladay I, SRK/T, Haigis, Barrett Universal II, Savini[1] and Barrett for toric IOLs, HillPotvinShammas[2], Barrett True K after myopic lasik, HillPotvin after RK[3], double K of Hoffer, SRK/T and Holladay and the Olsen formula (ray tracing). The Holladay consultant and OKULIX (ray tracing) can be linked to the software.

1 An Analysis of the Factors Influencing the Residual Refractive Astigmatism After Cataract Surgery With Toric Intraocular Lenses; Giacomo Savini and Kristian Næser; IOVS2015; 56:827–835.DOI:10.1167/iovs.14-15903
2 New algorithm for intraocular lens power calculations after myopic laser in situ keratomileusis based on rotating Scheimpflug camera data; Richard Potvin, OD, Warren Hill, MD; JCRS 2015; 41:339–347 Q 2015 ASCRS and ESCRS
3 New algorithm for post-radial keratotomy intraocular lens power calculations based on rotating Scheimpflug camera data; Richard Potvin, OD, Warren Hill, MD; JCRS 2013; 39:358–365 Q 2012 ASCRS and ESCRS
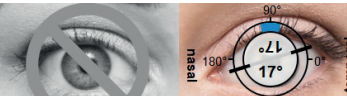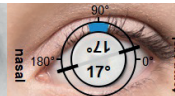
(!) This software module is available for the Pentacam® HR (optional) and the Pentacam® AXL only

IOL power calculation printouts

All necessary information, such as IOL power results and resulting SEQ, is summarized in a clear and intuitive printout, ready for use right before surgery.

Printout of an IOL power calculation for an aspherical IOL

OCULUS pentacam AXL

Patient	01 Demo Cataract, Cataracta Centralis	Exam Date	17.10.2006
D.o.B.	06.04.1935	Exam Time	11:20:06
ID	OD grade 2, OS opaque epithel	Planning Date	25.03.2019
Surgeon	TestSurgeon, Test	Eye Status	

Cor./Diseases:
Info:

OS (Left)

QS	OK	Tgt Refr SEQ	-0.25 D	SIA 0.15 D @ 90°
AL (opt.) manual	23.600 mm (M)		SimK 15° (n = 1.3375)	
ACD (Ext.)	3.73 mm	K1	43.1 D / 7.83 mm @ 149°	
Pupil Dia	2.65 mm	K2	43.4 D / 7.78 mm @ 59°	
HWTW		K Avg	43.2 D / 7.80 mm	
Chord µ	0.11 mm	Astig	0.3 D	
TCRP WFAZ40, 6mm	0.393 µm	K1 Pre-Refr.-Surg.		
TCRP WFAHOA, 4mm	0.097 µm	K2 Pre-Refr.-Surg.		
OS-OD Test	OK			

1 Alcon AcrySof IQ SN60WF
Haigis
K1/K2 (SimK 15°): 43.2 D (nRefr=1.3375)
IOL SEQ Emm. = +21.76 D | a0:-0.769 a1:0.234 a2:0.217

IOL SEQ	Refraction SEQ
+21.50	+0.18
+22.00	-0.17
+22.50	-0.52
+23.00	-0.87
+23.50	-1.23

2 Alcon AcrySof IQ SN60WF
Barrett Universal II
K1/K2 (SimK 15°): 43.2 D
IOL SEQ Emm. = +21.59 D   ABarrett: 119

IOL SEQ	Refraction SEQ
+21.00	+0.41
+21.50	+0.06
+22.00	-0.29
+22.50	-0.65
+23.00	-1.01

3 Alcon AcrySof IQ SN60WF
Holladay1
K1/K2 (SimK 15°): 43.2 D
IOL SEQ Emm. = +21.34 D   SF: 1.84

IOL SEQ	Refraction SEQ
+21.00	+0.23
+21.50	-0.11
+22.00	-0.45
+22.50	-0.79
+23.00	-1.14

4 Alcon AcrySof IQ SN60WF
SRK/T
K1/K2 (SimK 15°): 43.2 D
IOL SEQ Emm. = +21.25 D   ASRKT: 119

IOL SEQ	Refraction SEQ
+21.00	+0.17
+21.50	-0.17
+22.00	-0.52
+22.50	-0.87
+23.00	-1.22

Printout of an IOL power calculation for an aspherical IOL

OCULUS pentacam AXL

Patient	01 Demo Cataract, Cataracta Centralis	Exam Date	17.10.2006
D.o.B.	06.04.1935	Exam Time	11:20:06
ID	OD grade 2, OS opaque epithel	Planning Date	25.03.2019
Surgeon	TestSurgeon, Test	Eye Status	

Cor./Diseases:
Info:

■ incision
▬ IOL axis

OS (Left)

QS	OK	Tgt Refr SEQ	-0.25 D	SIA 0.15 D @ 90°	
AL (opt.) manual	23.600 mm (M)		SimK 15° (n = 1.3375)		TCRP 3mm, zone, pup.
ACD (Ext.)	3.73 mm	K1	43.1 D / 7.83 mm @ 149°		42.6 D @ 135°
Pupil Dia	2.65 mm	K2	43.4 D / 7.78 mm @ 59°		42.7 D @ 45°
HWTW		K Avg	43.2 D / 7.80 mm		42.7 D
Chord µ	0.11 mm	Astig	0.3 D		0.1 D
TCRP WFAZ40, 6mm	0.393 µm	K1 Pre-Refr.-Surg.			
TCRP WFAHOA, 4mm	0.097 µm	K2 Pre-Refr.-Surg.			
OS-OD Test	OK				

13 Alcon AcrySof IQ Toric SN6AT(2-9)

Haigis		Savini Toric	
K1/K2 (SimK 15°): KAvg = 43.2 D (n=1.3375)		TCRP 3mm, zone, pup.:Astig: 0.1D @ 45°	
IOL SEQ Emm. = +22.08 D | a0:-0.323 a1:0.213 a2:0.208		IOL Toricity Emm. = +0.26 D @ 17°	
IOL SEQ	**Refraction SEQ**	**IOL Toricity**	**Astig. Res.**
+21.50	+0.40	n.a.	
+22.00	+0.05	n.a.	
+22.50	-0.29	T2 1.00 D	+0.50 D @ 107°
+23.00	-0.64	T3 1.50 D	+0.84 D @ 107°
+23.50	-0.99	T4 2.25 D	+1.35 D @ 107°

IOL	SEQ: +22.50 D T2 (1.00 D)
IOL Axis	17°
Residual Refr.	SEQ -0.29 C +0.50 @ 107°
Incision Axis	90°

Printout of an IOL power calculation for a toric IOL

IOL printout

For optimal pre-op decision making, all relevant data (i.a. ACD, HWTW) is displayed, the following of which deserve particular mention:
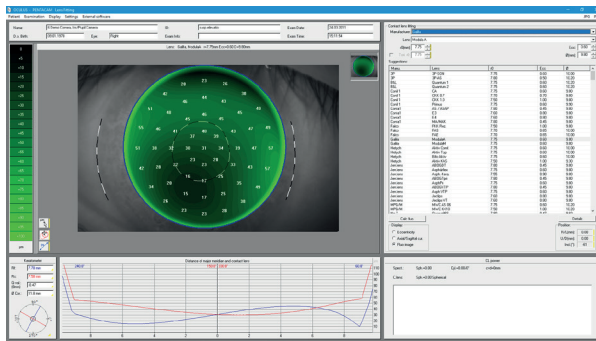
- Chord µ
- Total WFA Z40, 6 mm
- Total WFA HOA, 4 mm

The result of the automatic plausibility check is displayed, corroborating or querying the measured data to support you in your decision making.

❗ This software module is available for the Pentacam® HR (optional) and the Pentacam® AXL only

More Software Modules

Various software options for different challenges


Contact Lens Fitting

The Pentacam® provides measurements independent of an existing tear film, offering optimal support in fitting contact lenses. Its dynamic fluo image simulation makes it possible to predict the seat as well as any inclination or displacement of the contact lens. Up to seven simulations can be displayed simultaneously.
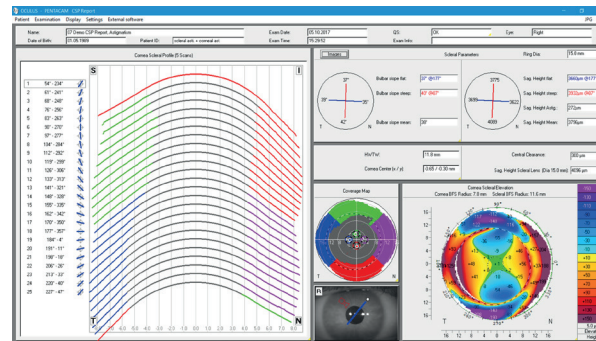
CSP Report

The cornea scleral profile (CSP) is measured with a coverage of up to 18 mm, capturing not only the cornea but also the sclera. Together with the sagittal height data this provides you with parameters that are important for fitting scleral lenses. All 250 Scheimpflug images are generated tear film independently and without the patients having to move their eyes. Thanks to user-independent image release the CSP Report is just as reproducible as any other measurement taken with the Pentacam®.

⚠ This software module is available for the
Pentacam® and the Pentacam® HR only
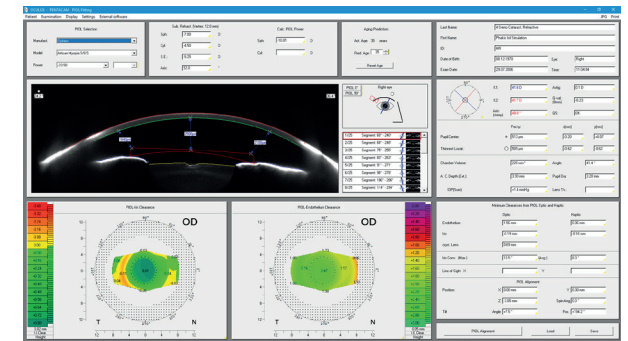
3D pIOL Simulation and Aging Prediction

This software module assists you in preoperative planning of iris-fixated phakic IOLs. After the subjective refraction is entered the software calculates the necessary pIOL refractive power dependent on the selected pIOL type. The position of the pIOL in the anterior chamber is automatically calculated in 3D and represented in the Scheimpflug images. The minimal distances between the pIOL and the crystalline lens as well as the endothelium are calculated automatically in 3D and displayed numerically as well as in a colour map.

⚠ This software module is available for the
Pentacam® HR (optional) and the Pentacam® AXL only

All Features at a Glance

Customize the OCULUS Pentacam® / Pentacam® HR / Pentacam® AXL
to your own requirement

Software included	Pentacam®	Pentacam® HR	Pentacam® AXL
General Overview	✓	✓	✓
Fast Screening Report	✓	✓	✓
Topometric / KC-Staging (Belin ABCD Keratoconus Staging)	✓	✓	✓
Belin ABCD Progression Display	✓	✓	✓
Elevations and Topography of corneal front and back surface	✓	✓	✓
4 Maps Refractive	✓	✓	✓
Iris Image and HWTW	✓	✓	✓
Compare 2 Exams	✓	✓	✓
Pachymetric	✓	✓	✓
Tomography	✓	✓	✓
Scheimpflug Image Overview	✓	✓	✓
3D anterior chamber analysis	✓	✓	✓
Compare 2 Exams Scheimpflug Images	✓	✓	✓

Additional software	Pentacam®	Pentacam® HR	Pentacam® AXL
Belin/Ambrósio Enhanced Ectasia Display	O	O	✓
Holladay Report + Holladay EKR Detail Report	O	O	✓
CSP Report	O	O	–
Contact Lens Fitting incl. Fourier Analysis	O	O	✓
3D pIOL Simulation and Aging Prediction	–	O	O
IOL Calculator	–	O	✓
Corneal Optical Densitometry	O	O	✓
PNS and 3D Cataract Analysis	O	O	✓

✓ included   O optional   – not available

Optional examination functions (included with the Pentacam® AXL)

Cataract Software Package
→ Cataract Pre-OP Display
→ Corneal Power Distribution
→ Zernike Analysis with normative corneal wavefront
→ Keratometry overlay in Iris Image
→ PNS and 3D Cataract Analysis
→ Total Corneal Refractive Power (TCRP)
→ Automatic calculation of the anterior chamber angle in 360°, measurement based on Scheimpflug images
→ 4 Maps Topometric and 4 Maps Chamber
→ Show 2 Exams
→ Compare 4 Exams
→ True Net Power (TNP)

Refraktiv Software Package
→ Corneal Optical Densitometry
→ Corneal Rings
→ Fourier Analysis
→ Refractive
→ Pachymetric
→ 4 Maps Selectable
→ Show 2 Exams
→ Compare 4 Exams

Optional evaluation functions

DICOM Interface

Scheimpflug Images

Impressive, convincing, simply sharp

Descemet Stripping After Endothelium Keratoplasty (DSAEK)
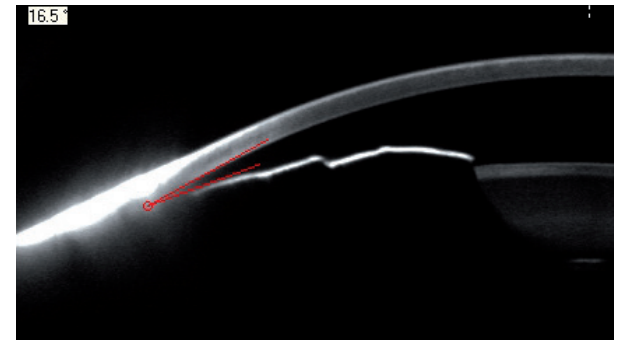

Extremely thin keratoconus cornea

Penetrating Keratoplasty (PKP)

Implantable Collamer® Lens (ICL)

Nuclear sclerosis

Narrow (anterior) chamber angle
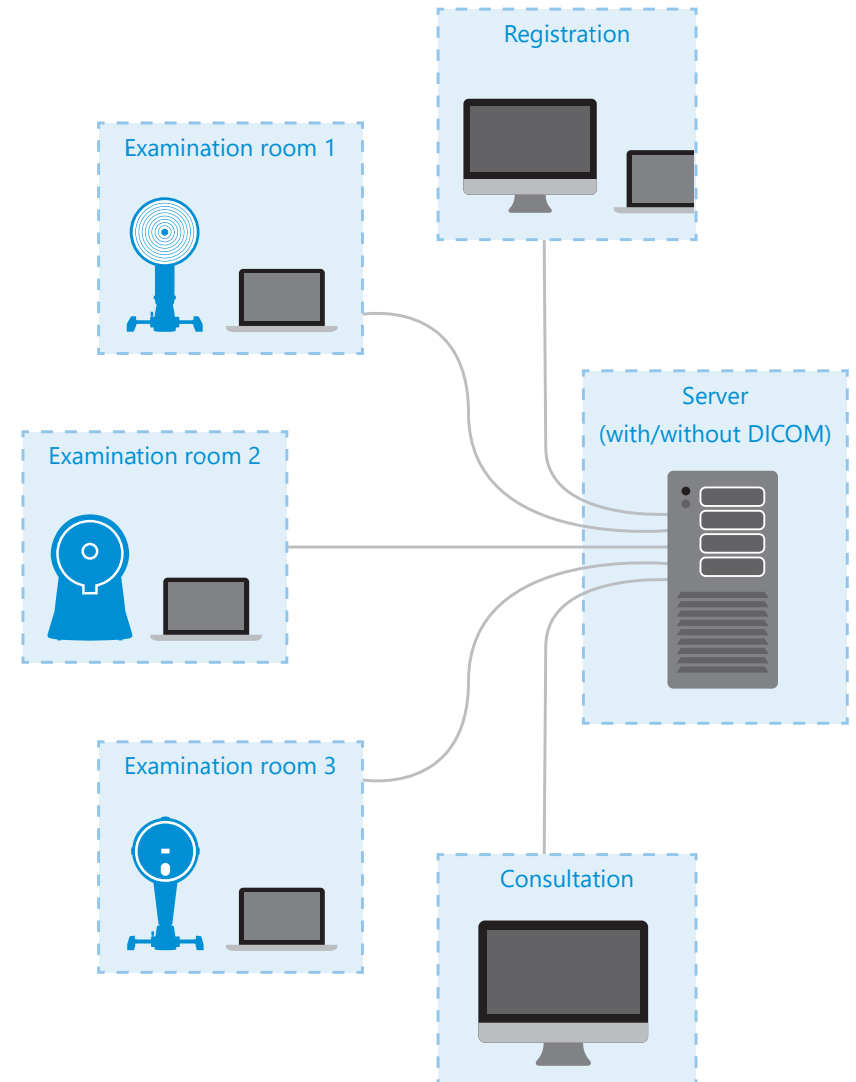
The Fascination of Technology

Ingenious yet simple

The Floating License Key – for maximum flexibility

This basic Pentacam® software is already available at all workplaces in your network. You decide which optional examination and evaluation functions you need in addition. You also choose the number of optional evaluation software features which should be available simultaneously. The Floating License Key (FLK) activates the corresponding licenses and makes them available on your network. To help you decide what you need all the optional evaluation functions can be accessed 20 times for demonstration purposes.

Efficiency and productivity through networking

The OCULUS Patient Data Management system (PDM) optimises your work processes. It is always included in the scope of delivery; it organises patient and examination data from all OCULUS instruments. The PDM is network-compatible and can be incorporated into many Electronic Medical Record (EMR) systems. Needless to say, the OCULUS PDM communicates with the DICOM environment and makes results available in DICOM format.
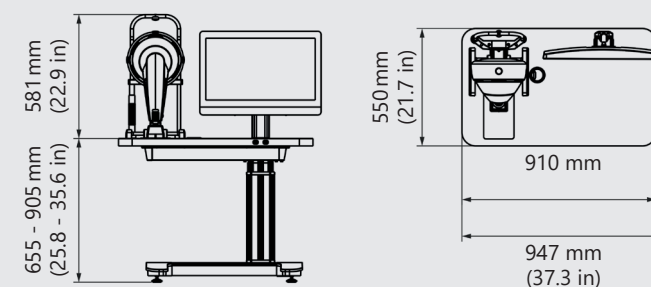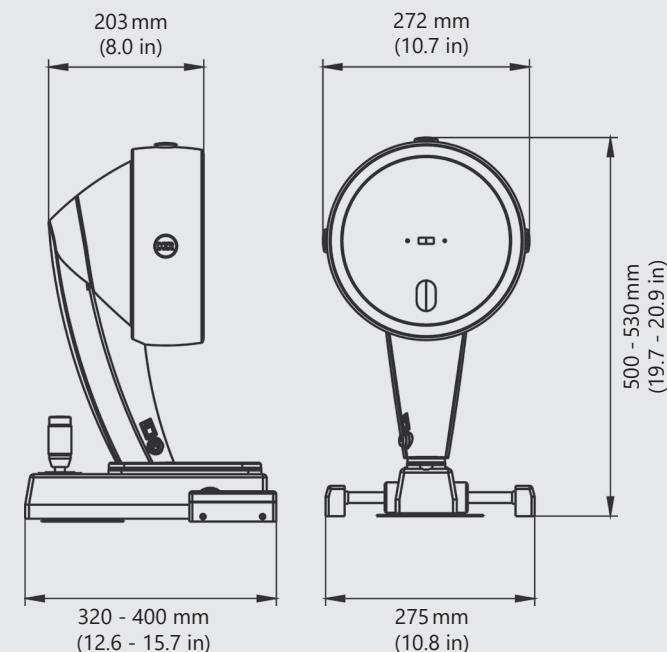

Registration

Examination room 1

Server (with/without DICOM)

Examination room 2

Examination room 3

Consultation

Pentacam®/Pentacam® HR /Pentacam® AXL

Technical Data

Scheimpflug camera	Pentacam®	Pentacam® HR	Pentacam® AXL
Camera	digital CCD camera	digital CCD camera	digital CCD camera
Light source	blue LED (475 nm UV-free)	blue LED (475 nm UV-free)	blue LED (475 nm UV-free)
Processor	DSP with 400m operations/s	DSP with 400m operations/s	DSP with 400m operations/s
Speed	50 images in 2 seconds [1]	100 images in 2 seconds [2]	100 images in 2 seconds [2]
Measurement range	**Pentacam®**	**Pentacam® HR**	**Pentacam® AXL**
Curvature	3 - 38 mm 9 - 99 D	3 - 38 mm 9 - 99 D	3 - 38 mm 9 - 99 D
Precision	± 0.2 D	± 0.1 D	± 0.1 D
Reproducibility	± 0.2 D	± 0.1 D	± 0.1 D
Operating distance	80 mm (3.1 in)	80 mm (3.1 in)	80 mm (3.1 in)
Axial length	-	-	14 - 40 mm
Technical specifications	**Pentacam®**	**Pentacam® HR**	**Pentacam® AXL**
Dimensions (W x D x H)	275 x 320 - 400 x 500 - 530 mm (10.8 x 12.6 - 15.7 x 19.7 - 20.9 in)	275 x 320 - 400 x 500 - 530 mm (10.8 x 12.6 - 15.7 x 19.7 - 20.9 in)	275 x 320 – 400 x 500 – 530 mm (10.8 x 12.6 - 15.7 x 19.7 - 20.9 in)
Weight	7.2 kg	7.8 kg	8.4 kg
Max. power consumption	35 W	42 W	42 W
Recommended computer specifications	Intel® Core™ i5, 500 GB HDD, 8 GB RAM, Windows® 10, Intel® HD Graphics		

[1] Scheimpflug image of the entire anterior segment
[2] Cornea Fine Scan

CE 0123

203 mm (8.0 in)
272 mm (10.7 in)
500 - 530 mm (19.7 - 20.9 in)
320 - 400 mm (12.6 - 15.7 in)
275 mm (10.8 in)

581 mm (22.9 in)
655 - 905 mm (25.8 - 35.6 in)
550 mm (21.7 in)
910 mm
947 mm (37.3 in)

WWW.OCULUS.DE

The availability of products and features may vary by country. OCULUS reserves the right to change product specifications and design. All information is valid at the time of printing (08/21).

OC/1895/WZ/EN
P/70700/EN

OCULUS is certified by TÜV according to
DIN EN ISO 13485 MDSAP

Find your local OCULUS representative on our website.