

# OCULUS Pentacam® AXL

The All-in-One Unit!





EFFICIENCY AND BETTER WORKFLOW

# Two Devices in One!

The new Pentacam® AXL is a symbiosis of the time-tested Pentacam® technology with high-precision partial coherence interferometry (PCI) measurement along the visual axis. The compact Pentacam® AXL provides cataract surgeons with diverse measuring options for optimal IOL power calculation:

**P** Pentacam® measurements

The Pentacam® – the gold standard in anterior segment tomography – measures the front and back surfaces of the cornea, total corneal refractive power (TCRP), and corneal thickness, and performs a complete anterior segment analysis.

**A** Axial length measurements

Contact-free optical biometry from the corneal surface to the retina is performed for IOL power calculation.

**PA**

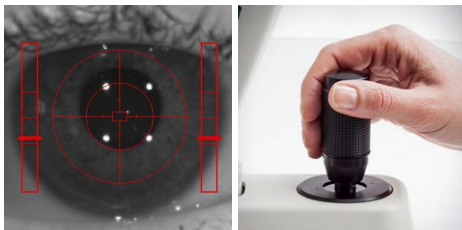
Combined measurements: Pentacam® + axial length

Both measurements are taken in succession on the same measuring axis using the same alignment.

## Providing better quality of care to all patients

With the Pentacam® AXL, you can obtain reliable measurements for your cataract patients, including the more challenging cases of treated eyes (LASIK, PRK, RK, etc.). Special IOL calculation formulas are available to assist you in successful IOL planning.

## Ease of use and accuracy



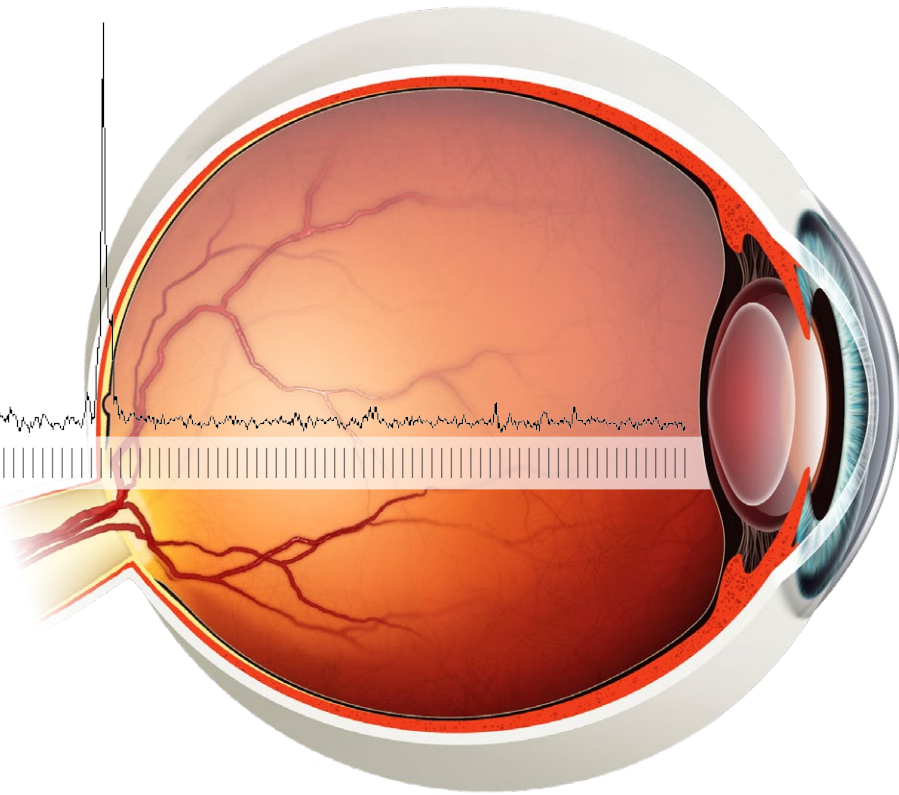
Accurate alignment with the patient's eye is essential for the quality and reproducibility of measurements. The software guides this process through graphical instructions, triggering measurements automatically once the optimal position is reached.

Anterior segment tomography  
+ Axial length measurement  
+ IOL calculation  
= Pentacam® AXL



**NEW!** MEASUREMENT OF AXIAL LENGTH

# Axial Length Measurement and Built-in IOL Calculation



## Axial length measurement in Pentacam® quality

Once measurements are complete, all relevant data including the axial length, K values, anterior chamber depth and corneal diameter (HWTW), are automatically transferred to the IOL calculation software. This eliminates manual processing errors.

During measurement of axial length, two iris images are taken using infrared and green illumination. Depiction of blood vessels and iris structure with green light, facilitates finding the correct alignment of toric IOLs.

## Optimization of constants drives continuous performance improvement

To improve your performance long-term you must be able to constantly assess the results of your work. This is the approach taken by the Pentacam® AXL. Via intuitive menu navigation, you optimize the IOL constants of your preferred calculation formula bit by bit – for continuous improvement of post-refractive outcomes and happy patients to confirm it.

### Supported calculation formulas

#### Standard formulas:

- SRK/T
- Holladay 1
- Hoffer Q
- Haigis
- Barrett Universal II
- Olsen formula

#### Formulas for treated corneas:

- PotvinShammasHill, after myopic LASIK
- PotvinHill, after radial keratotomy (RK)
- Barrett True K
- double-K formulas (Holladay 1, Hoffer Q, SRK/T)
- Olsen formula

#### Formulas for toric IOLs:

- Savini Toric
- Barrett Toric
- Olsen formula

#### Link to external calculation formulas (optional):

- OKULIX
- Holladay Consultant

FINE-TUNE YOUR PATIENT'S VISION

# Premium IOL in 4 Easy Steps

The Pentacam® AXL measures TCRP with ray tracing, giving due consideration to the front and back corneal surfaces. The Cataract Pre-OP Display summarizes all data relevant to your decisions in selecting toric, aspheric, multifocal, or standard IOLs for your patients.

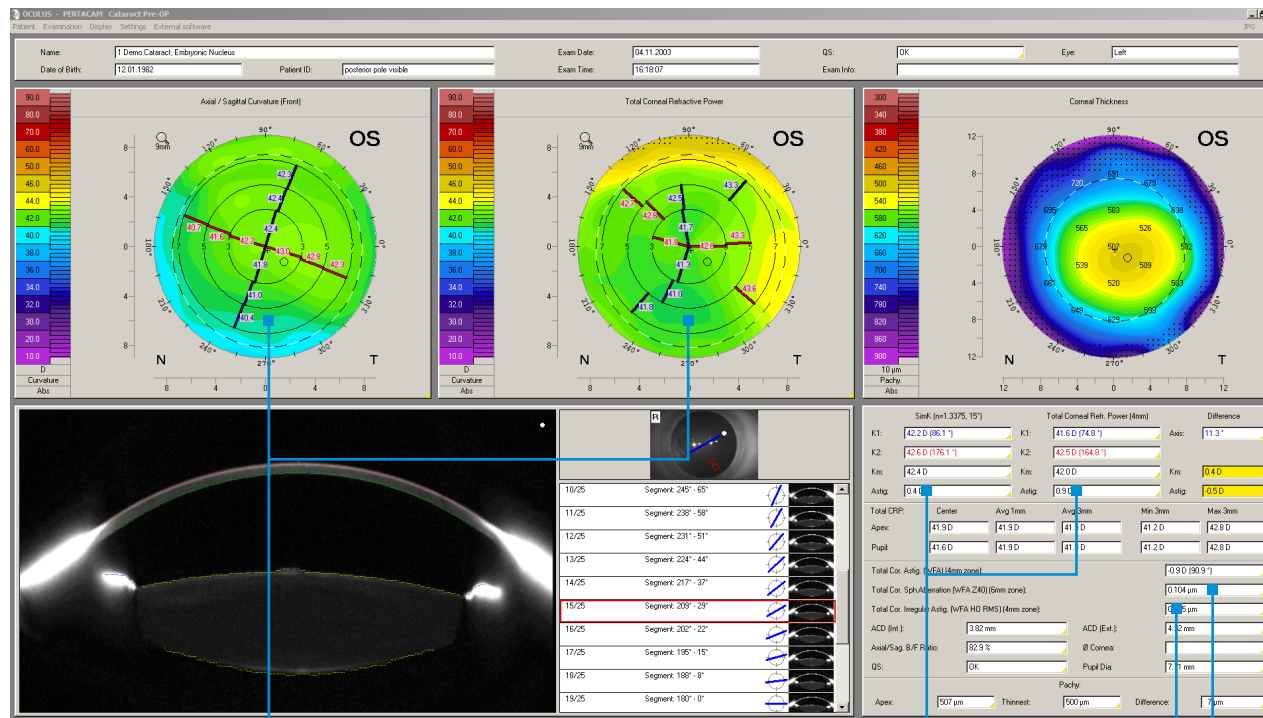
Total corneal astigmatism  
+ Axial length  
+ IOL formula  
= Optimal IOL

## 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 selecting the optimal premium IOL.

The following parameters are taken into consideration for this purpose:

1. Total corneal higher order aberrations
2. Regularity of corneal topography
3. Total corneal spherical aberrations
4. Comparison of corneal astigmatism



2. Regularity of anterior corneal topography and TRCP – for toric IOLs

4. Comparison of total corneal astigmatism and influence of the posterior corneal surface – for toric IOLs

1. Total corneal higher order aberrations – for multifocal IOLs

3. Total corneal spherical aberrations – for spherical or aspheric IOLs



Delegable measurements  
+ Intuitive screening  
+ Fast evaluation  
= Practice efficiency

## THE PATH TO OPTIMIZING DAILY PRACTICE

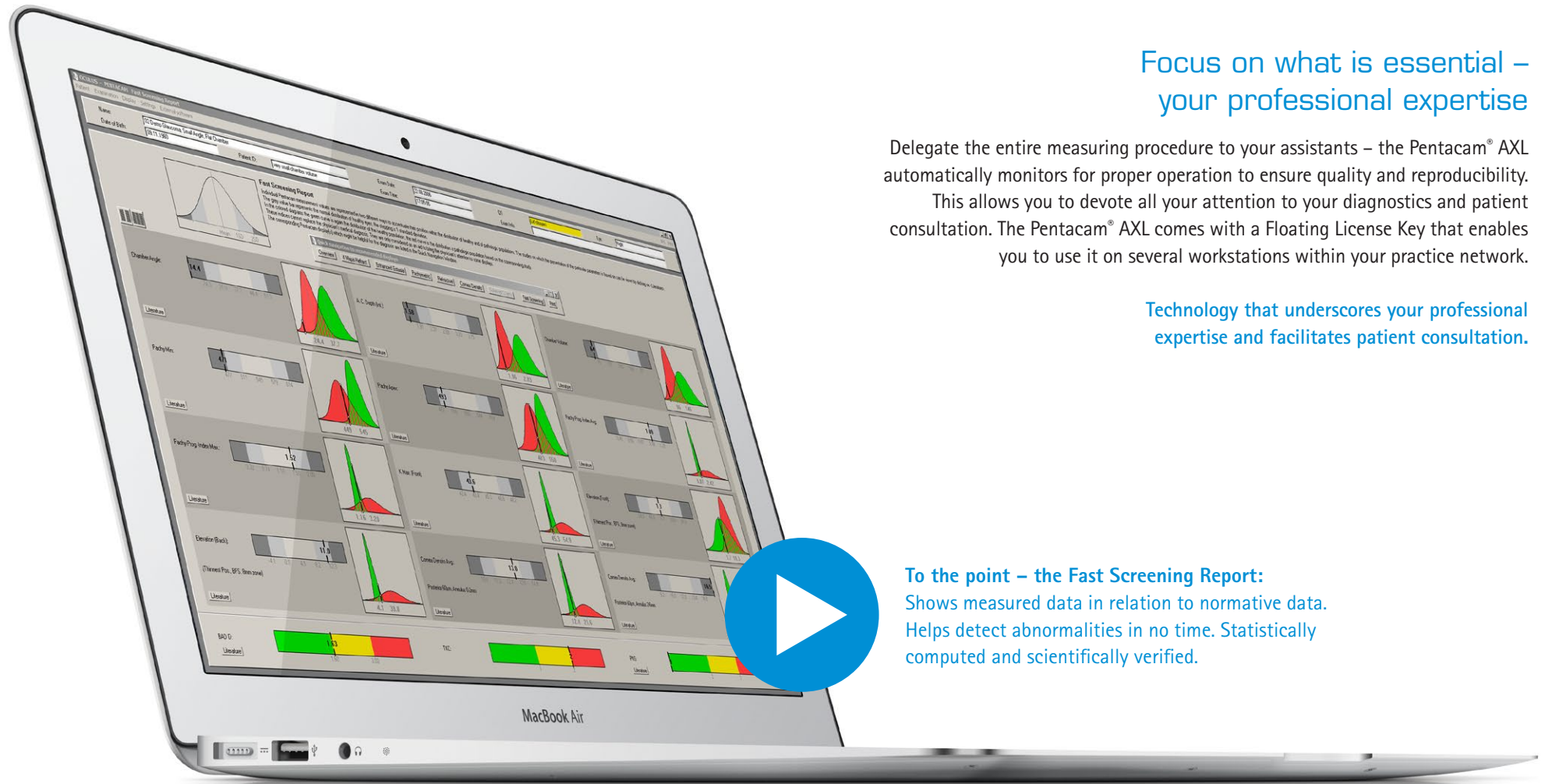
# The Most Important Results at a Glance

Focus on what is essential –  
your professional expertise

Delegate the entire measuring procedure to your assistants – the Pentacam® AXL automatically monitors for proper operation to ensure quality and reproducibility.

This allows you to devote all your attention to your diagnostics and patient consultation. The Pentacam® AXL comes with a Floating License Key that enables you to use it on several workstations within your practice network.

Technology that underscores your professional  
expertise and facilitates patient consultation.



**To the point – the Fast Screening Report:**  
Shows measured data in relation to normative data.  
Helps detect abnormalities in no time. Statistically  
computed and scientifically verified.

# Technical Data

## Pentacam® AXL

Scheimpflug camera	
Camera	digital CCD camera
Light source	blue LED (475 nm UV-free)
Processor	DSP with 400m operations/s
Speed	100 images in 2 seconds <sup>1)</sup>
Measurement range	
Axial length	14 - 40 mm
Curvature	3 - 38 mm 9 - 99 D
Precision	± 0.1 D
Reproducibility	± 0.1 D
Operating distance	80 mm (3.1 in)
Technical specifications	
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)
Weight	11.2 kg (24.7 lbs)
Voltage	24 V DC
Frequency	47 - 63 Hz
Max. power consumption	37.4 W
Recommended computer specifications	CPU Intel Core i5-6600, 1 TB HDD, 8 GB RAM, MS Windows® 10Pro, VESA, USB interface

<sup>1)</sup> Cornea fine scan

CE in accordance with Medical Device Directive 93/42/EEC

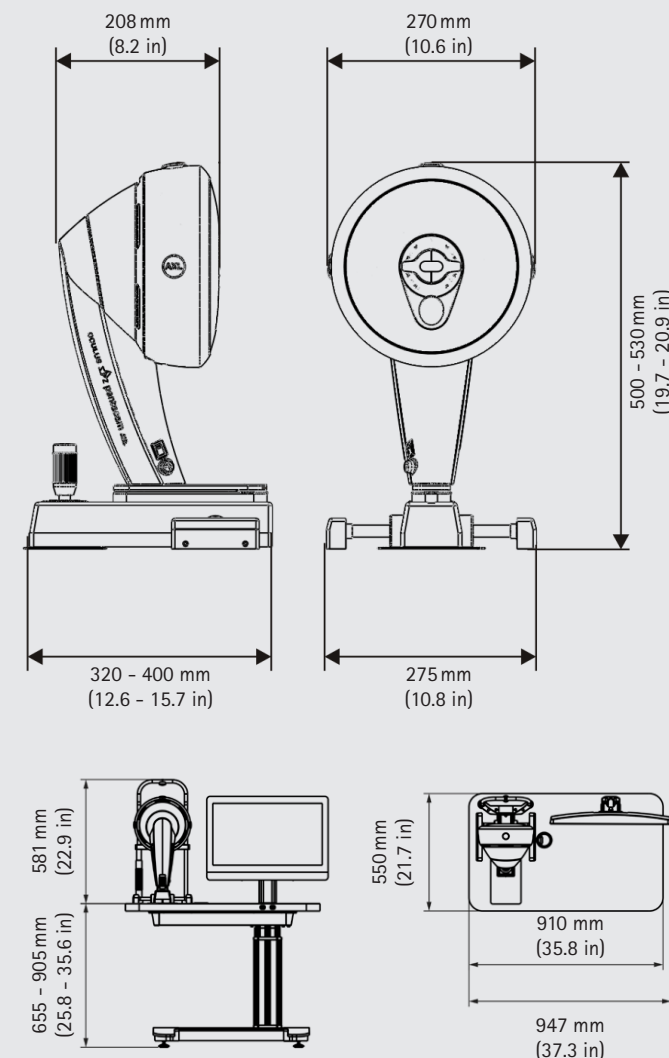
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OCULUS is certified by TÜV according to DIN EN ISO 13485

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