

OCULUS Pentacam® AXL

Always an
Axial Length
Ahead



ENSURES RELIABILITY – BUILDS TRUST

Two Devices in One!

The new Pentacam® AXL is a symbiosis of the time-tested Pentacam® technology with completely new, high-precision measurement along the visual axis. Contact-free from the corneal surface to the retina. This compact device offers you a multitude of diverse measuring options:

P Pentacam® measurements

The gold standard for measuring and analyzing the anterior segment of the eye – and rightly so. It's time-tested, sophisticated and the first choice among many experts worldwide.

A Axial length measurements

For IOL power calculation

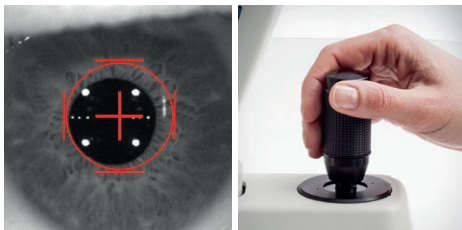
PA Combined measurements: Pentacam® + Axial length

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

Better Results for Difficult Eyes Too

Using the Pentacam® AXL, you can also take reliable measurements of difficult eyes. For treated corneas (LASIK, PRK, RK, etc.), special IOL calculation formulas are available.

Automatically Perfect Measurement Triggering



Correct centering in front of 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

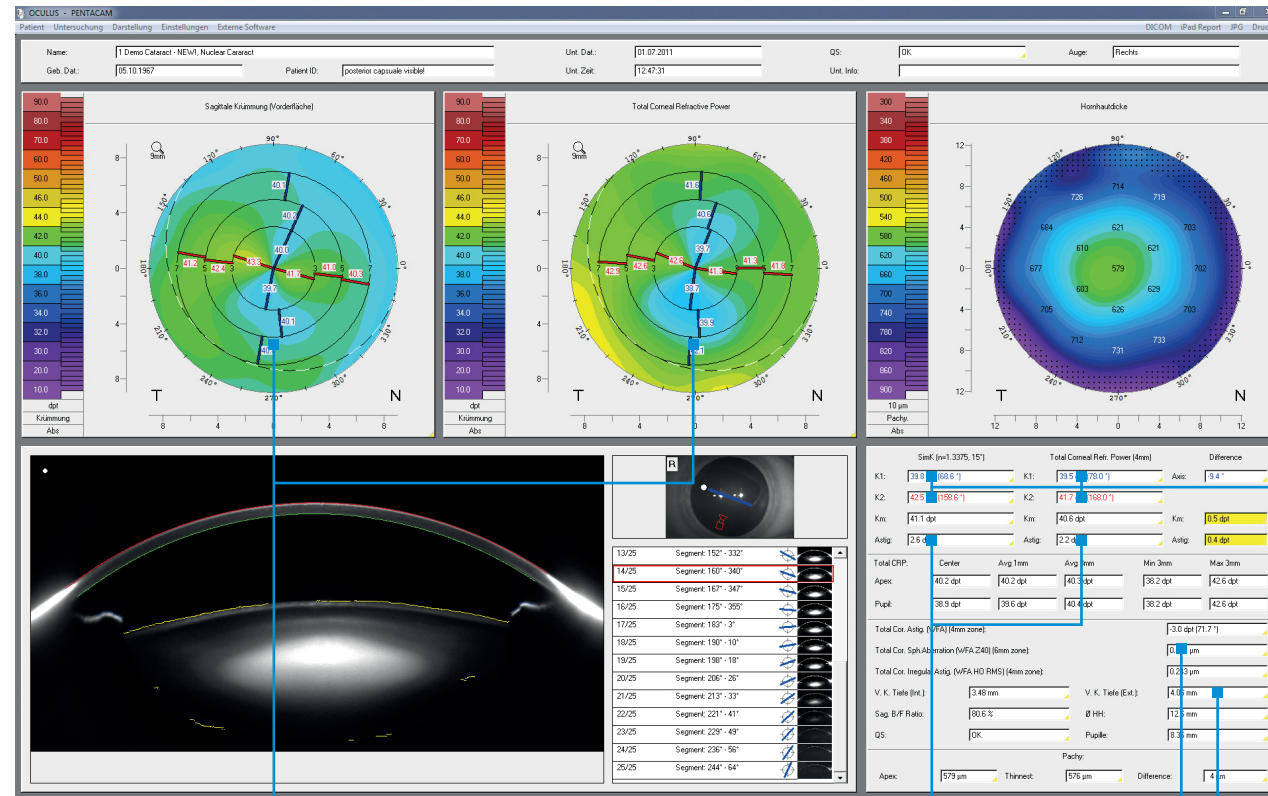


SO THAT YOUR PATIENTS CAN SEE BETTER

Premium IOL in 4 easy steps

Whether through toric, aspheric or multifocal geometry, the exact measuring data gathered by the Pentacam® AXL will assist you in selecting the right lens. Not only the anterior but also the posterior corneal surface is determined. Taking also the posterior corneal surface into account is crucial for accurate determination of the overall corneal astigmatism, giving you greater reliability in finding the optimal IOL for every patient.

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



Cataract Pre-OP Display

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.

To do this, the following parameters are taken into consideration:

1. overall corneal astigmatism,
2. total corneal spherical aberrations,
3. total corneal irregularities and
4. the influence of the posterior corneal surface.

K values for IOL calculation are entered automatically

Detection and evaluation of the influence of the posterior corneal surface

Influence of the posterior corneal surface on overall corneal astigmatism

Total corneal irregularities

Total corneal spherical aberrations

Delegable measurements
+ Intuitive screening
+ Fast evaluation
= Practice efficiency

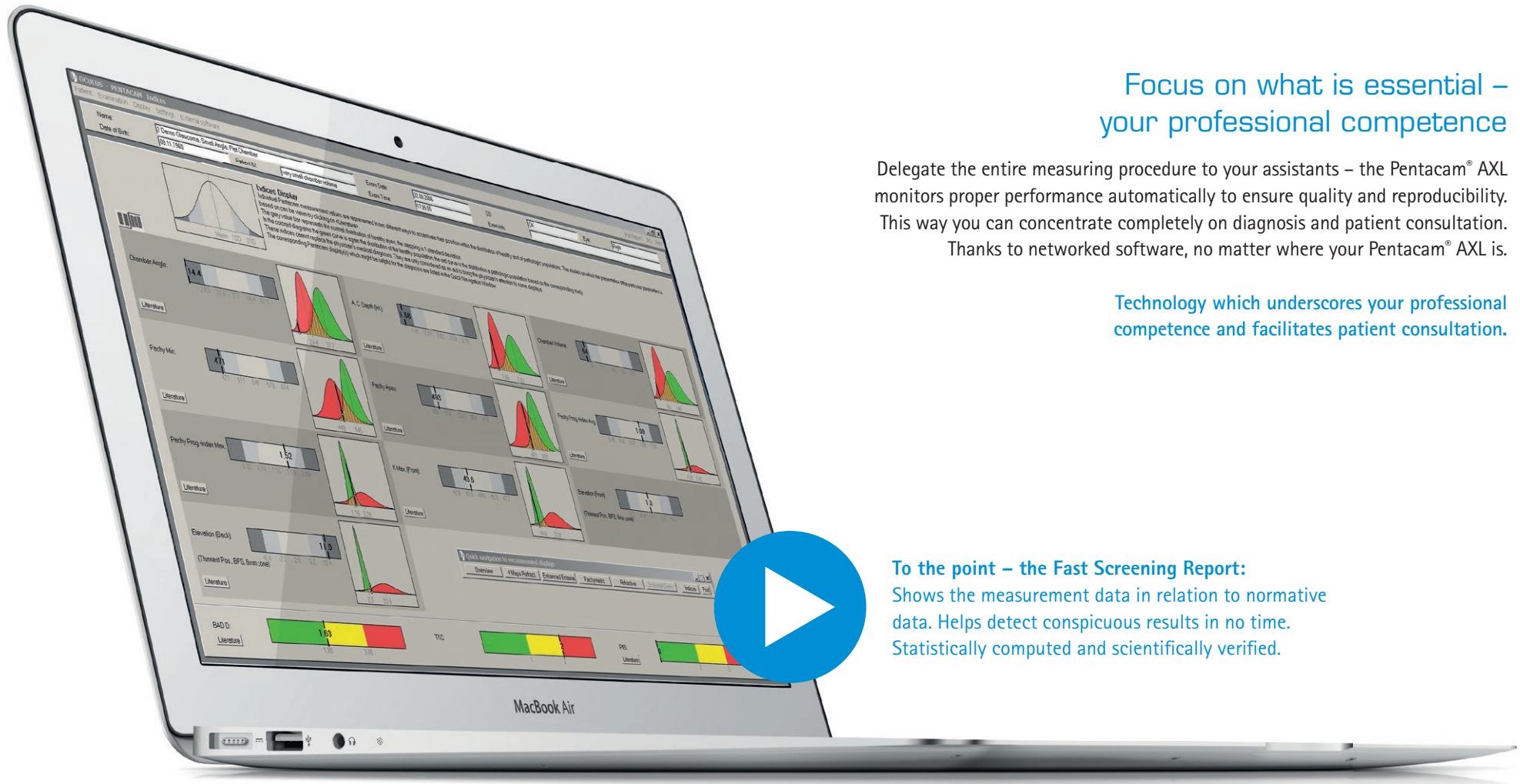
THE PATH TOWARDS OPTIMIZING DAILY PRACTICE

The Most Important Results at a Glance

Focus on what is essential –
your professional competence

Delegate the entire measuring procedure to your assistants – the Pentacam® AXL monitors proper performance automatically to ensure quality and reproducibility. This way you can concentrate completely on diagnosis and patient consultation. Thanks to networked software, no matter where your Pentacam® AXL is.

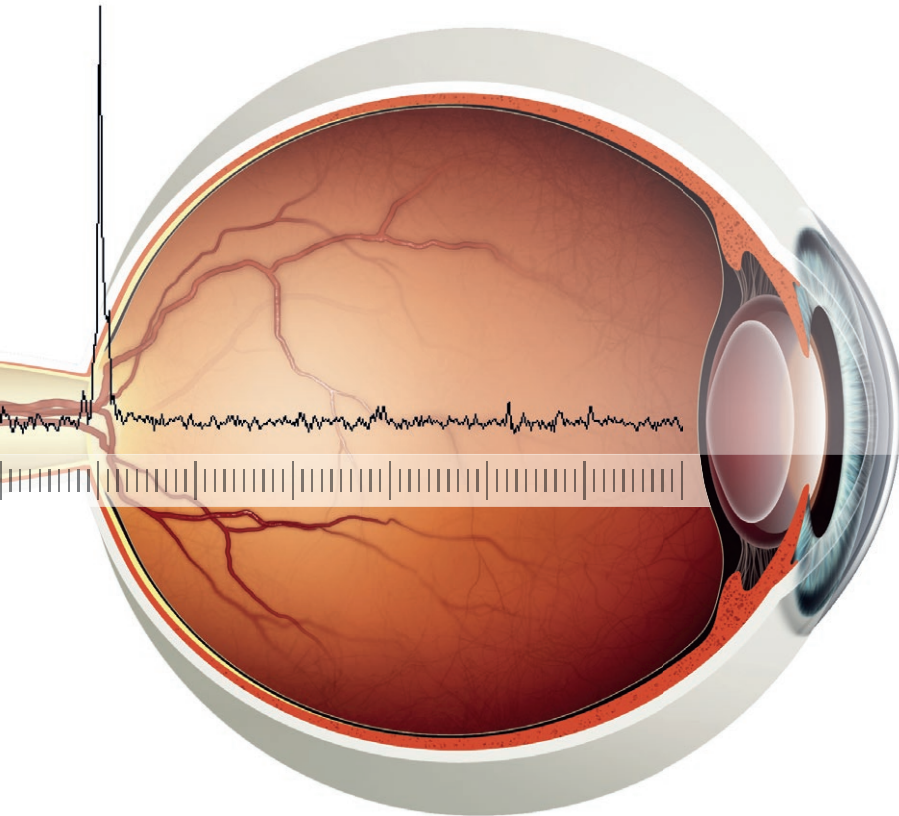
Technology which underscores your professional competence and facilitates patient consultation.



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

NEW! MEASUREMENT OF AXIAL LENGTH

Axial Length Matters – and the OCULUS Pentacam® AXL Really Sizes Up



Axial Length Measurement in Pentacam® Quality

All relevant data (axial length, K values, anterior chamber depth, corneal diameter etc.) are automatically transferred to the IOL calculation software. This rules out manual transcription errors.

During measurement of axial length, additional images of the eye are taken. Depiction of blood vessels using green illumination and of iris structure under infrared illumination facilitates correct alignment of the toric IOL during the surgical procedure.

Optimization of constants aims towards continuous performance improvement

Long-term performance improvement is only possible if you 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 step by step – for continuous improvement of post-refractive outcomes and hence satisfied patients.

Supported calculation formulas

Standard formulas:

- SRK/T
- Holladay 1
- Hoffer Q
- Haigis

Formulas for treated corneas:

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

Formulas for toric IOLs:

- Meridional analysis
based on TCRP
(Total Corneal Refractive Power)

Formulas based on ray tracing:

- Phaco Optics® (optional)
- OKULIX (optional)

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 ¹⁾
Measurement range	
Axial length	14 - 40 mm
Curvature	3 to 38 mm 9 to 99D
Precision	± 0,1 D
Reproducibility	± 0,1 D
Operating distance	80 mm (3.1 in)
Technical specifications (Measurement head)	
Dimensions (W x D x H)	270 x 208 x 430 mm (10.6 x 8.2 x 17.0 in)
Weight	7,9 kg (17.4 lbs)
Voltage	24 V DC
Frequency	50 - 60 Hz
Max. power consumption	37,4 W
Recommended computer specifications	3,4 GHz, 500 GB, Windows® 7, NVIDIA NVS 315 graphic board

¹⁾ Cornea fine scan

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

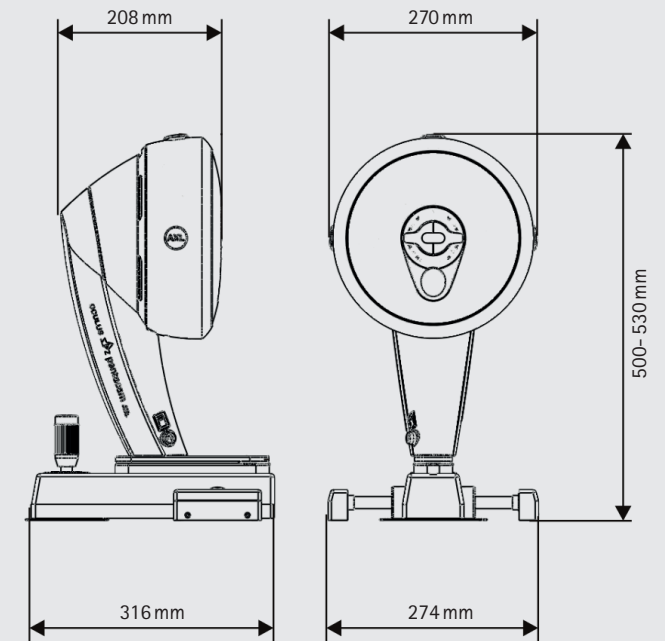
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OCULUS is certified by TÜV according to
DIN EN ISO 13485

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