

Precision Measurements for Personalized Treatments [1]

Disclaimer:

Footnotes:

References

* As compared to conventional PRK.

+ The results presented in this section are from a prospective, non-randomized study of 230 eyes that had myopia with or without astigmatism and that were treated with topography-guided LASIK with the ALLEGRETTO WAVE[®] Eye-Q Excimer Laser System. Eyes had nearsightedness up to -9 D and astigmatism up to 6 D.

? Pentacam is a trademark of OCULUS Optikgeräte GmbH.

1. Date on File / WaveLight[®] EX500 Excimer Laser User Manual.
2. Mrochen M, Donitzky C, Wüllner C, Löffler J. Wavefront Optimized[®] ablation profiles: theoretical background. J Cataract Refract Surg. 2004;30:775-785.
3. Kanellopoulos AJ, Binder PS. Management of corneal ectasia after LASIK with combined, same-day, topography-guided partial transepithelial PRK and collagen cross-linking: the Athens Protocol. J Refract Surg. 2011;27(5):323-331.
4. Coskunseven E, Jankov MR, Grentzelos MA, et al. Topography-guided transepithelial PRK after intracorneal ring segments implantation and corneal collagen CXL in a three-step procedure for keratoconus. J Refract Surg. 2013;29(1):54-58.
5. Anera RG, et al. Changes in corneal asphericity after laser refractive surgery, including reflection losses and nonnormal incidence upon the anterior cornea. Opt Lett. 2003;28:417-419.
6. Cummings A. Innovations in excimer laser refractive technology – focus on the WaveLight[®] EX500 Excimer Laser System. Eur Ophthalmic Rev. 2010;4:44-46.
7. Data on File / WaveLight[®] FS200 Femtosecond Laser User Manual.
8. Stulting RD, Fant BS. Results of topography-guided laser in situ keratomileusis custom ablation treatment with a refractive excimer laser. J Cataract Refract Surg. 2016;42;11-18.
9. PERS - Declaration of Conformity for WaveLight EX500 (Nov 2017)
10. Procedure Manual EX500 (1016) rev04 2017-02-27
11. Analysis of ethanol effects on corneal epithelium PubMed: <https://www.ncbi.nlm.nih.gov/pubmed/23674759> [2]
12. Epi-LASIK: comparative histological evaluation of mechanical and alcohol-assisted epithelial separation PubMed: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Epi-LASIK%3A+comparative+histo...> [3]
13. Single-Step Transepithelial PRK vs Alcohol-Assisted PRK in Myopia and Compound Myopic Astigmatism Correction PubMed: [https://www.ncbi.nlm.nih.gov/pubmed/?term=3\(4\)%09Single-Step+Transepithelial+PRK+vs+Alcohol-Assisted+PRK+in+Myopia+and+Compound+Myopic+Astigmatism+Correction](https://www.ncbi.nlm.nih.gov/pubmed/?term=3(4)%09Single-Step+Transepithelial+PRK+vs+Alcohol-Assisted+PRK+in+Myopia+and+Compound+Myopic+Astigmatism+Correction)

Tab:

Topolyzer VARIO [5]



WaveLight® Topolyzer™ VARIO Diagnostic Device

- Topography, keratometry and pupillometry in a single device
- Placido disc system maps up to 22,000 elevation points of any scale or irregularity
- Pupil centroid shift detection
- Delivers data for precise cyclotorsion control and precise centration

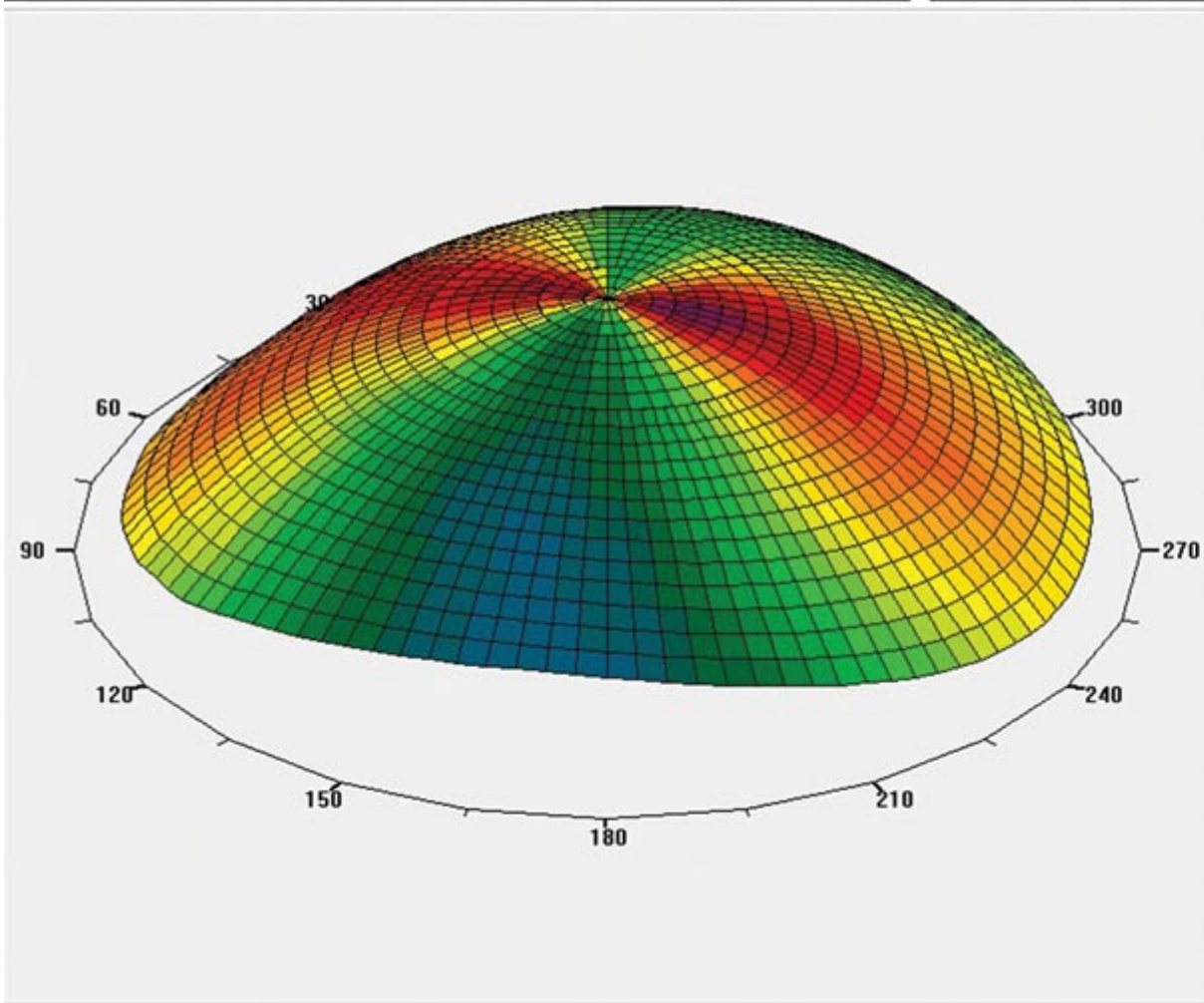
The only corneal mapping device that drives Contoura® Vision topography-guided LASIK treatments.

Name: Demo, Astigm. 2
Dat. o.B.: 25.09.60 Eye: Left

Exm. dat.: 11.07.96
Exm. time: 11:23:00

Colored
 Red/Green

Realistic
 Curvature



Exaggerate
- [] +
|< |>

Move
Slow Fast
|< |>
Wide Narrow
|< |>

Tilt

Turn

Rotation
[Up Arrow] [0] [Down Arrow]
[Left Arrow] [Right Arrow]

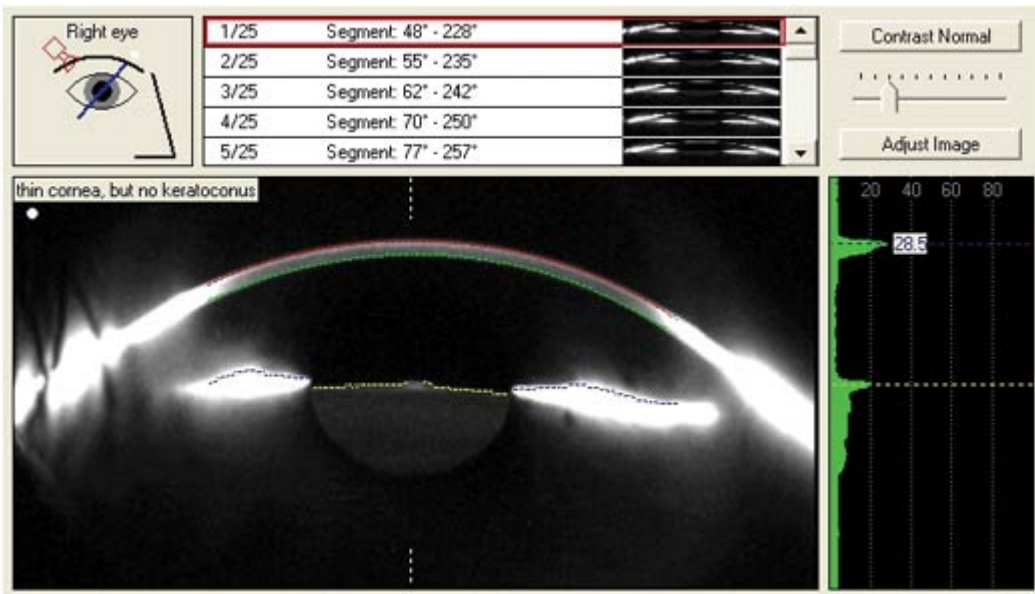
Software View

WaveLight Oculyzer II [6]

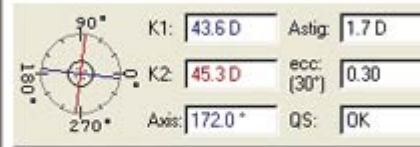


WaveLight® Oculyzer™ II Diagnostic Device

- Uses the Scheimpflug principle to assess the eye's complete anterior segment
- Based on proven Pentacam® HR technology
- Provides advanced keratoconus and ectasia detection and evaluation (Belin Ambrosio Report)

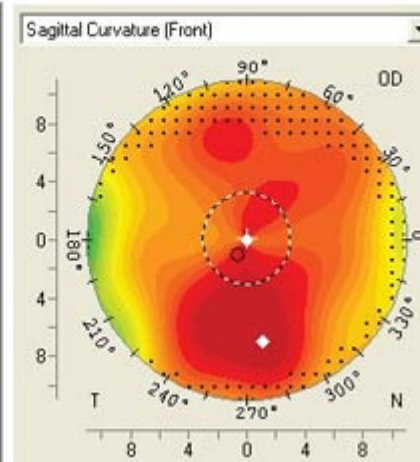
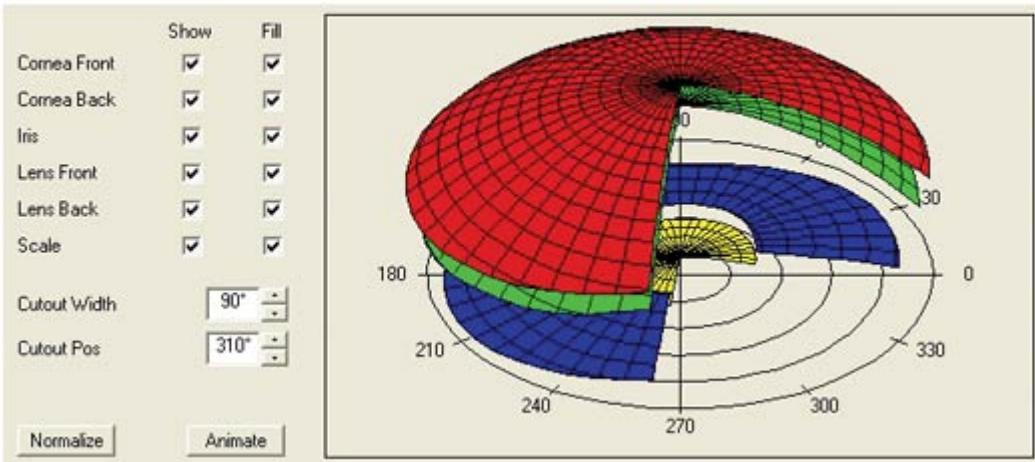


Last Name:	New Demo		
First Name:	Thin Cornea		
ID:	normal condition		
Date of Birth:	15.04.1969	Eye:	Right
Exam Date:	11.03.2005	Time:	08:48:26



Pupil Center:	Pachy:	x[mm]	y[mm]
+ 465 μm	463 μm	-0.01	+0.00
Thinnest Locat.:	463 μm	-0.31	-0.40

Chamber Volume:	236 mm ³	Angle:	41.1°
A. C. Depth (Int.):	3.54 mm	Pupil Dia:	3.07 mm
Enter IOP	IOP(cor):	Lens Th.:	



Software View

WaveLight Analyzer II ^[7]

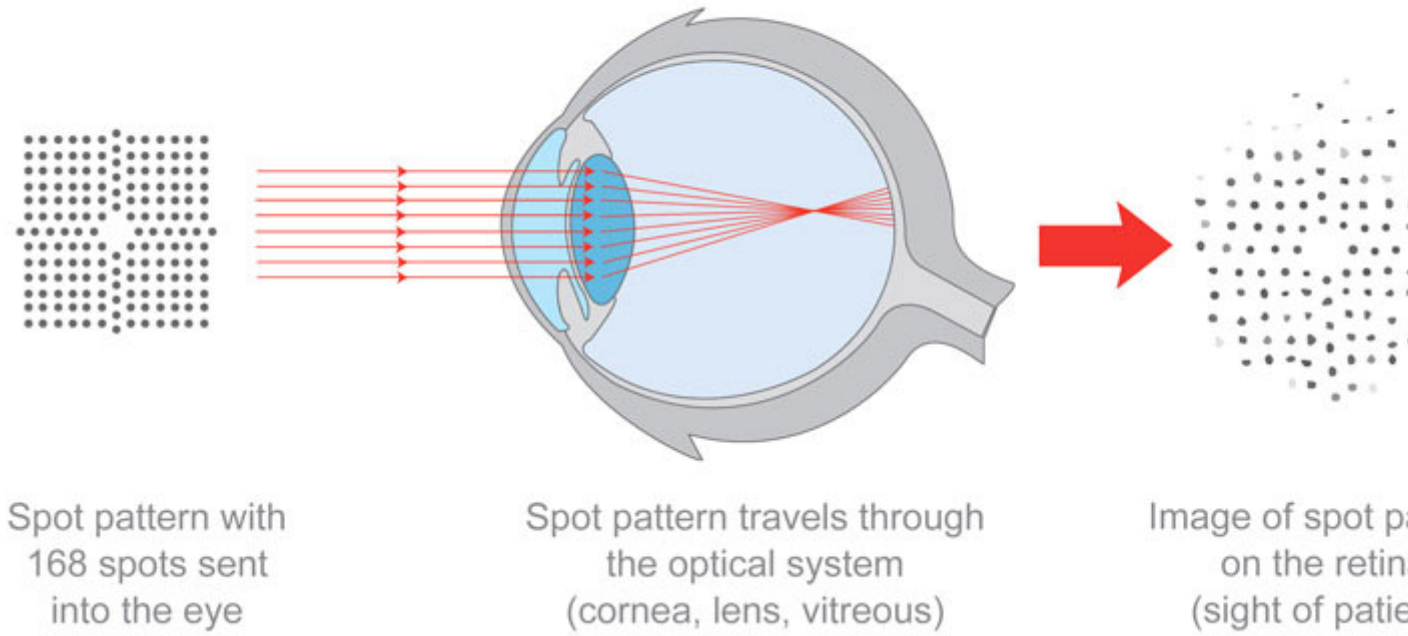


WaveLight[®] Analyzer II Diagnostic Device

- Accurately measures higher-order aberrations up to the sixth order
- Measures ingoing light based on the Tscherning Principle

- Integrated eye tracker for pupil centration

Tscherning Principle, using incoming light





Software View

Source URL: <https://www.wavelight.de/node/14621>

Links

- [1] <https://www.wavelight.de/node/14621>
- [2] <https://www.ncbi.nlm.nih.gov/pubmed/23674759>
- [3] <https://www.ncbi.nlm.nih.gov/pubmed/?term=Epi-LASIK%3A+comparative+histological+evaluation+of+mechanical+and+alcohol-assisted+epithelial+separation>
- [4] <https://www.ncbi.nlm.nih.gov/pubmed/?term=3>
- [5] <https://www.wavelight.de/produkte-infos/wavelightr-diagnostic-devices/precision-measurements-personalized-treatments#tab-1>
- [6] <https://www.wavelight.de/produkte-infos/wavelightr-diagnostic-devices/precision-measurements-personalized-treatments#tab-2>
- [7] <https://www.wavelight.de/produkte-infos/wavelightr-diagnostic-devices/precision-measurements-personalized-treatments#tab-3>