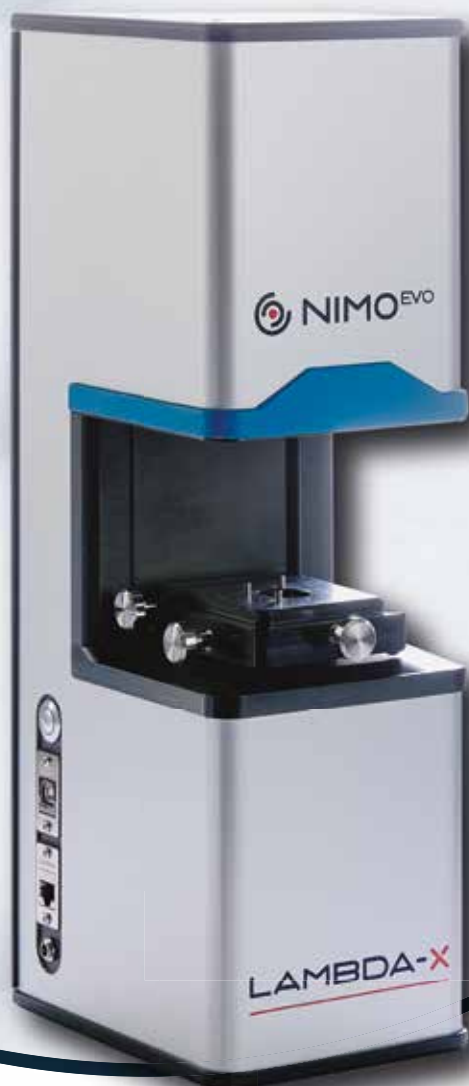




NIMOEVO

ADVANCED METROLOGY FOR CONTACT LENSES



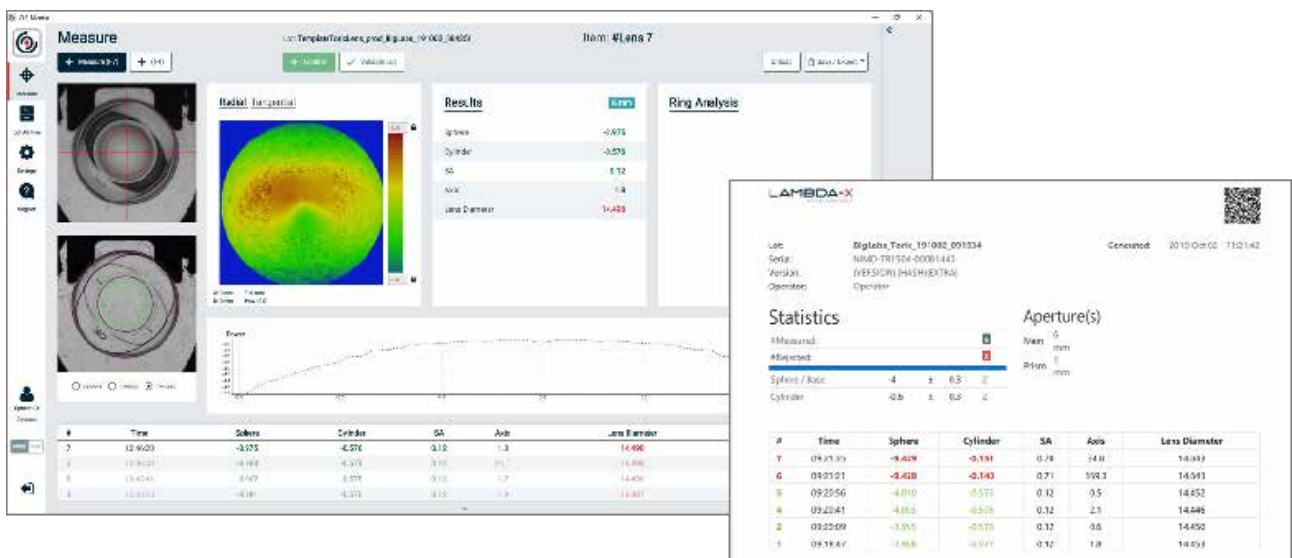
LAMBDA-X
OPHTHALMICS

LAMBDA-X

Pushing the boundaries of high-quality ophthalmic metrology.

Originating from the metrology business for most advanced space applications, Lambda-X is now a world leader in the use of wavefront measurement for ophthalmic inspection devices.

Since 2005, Lambda-X has been developing and delivering cutting-edge metrology equipment, unleashing the full power of wavefront technology to fully characterize CLEs and IOLs in just seconds. Lambda-X's NIMO® instruments provide CLE manufacturers, universities and research institutes all over the world with the most advanced metrology instruments for CLEs, tough convenient and affordable.





NIMO^{EVO}®

NIMO^{EVO}® is a wavefront sensor dedicated to the metrology of CLEs. It is based on the proprietary Phase Shifting Schlieren (PSS) technology. It features high-resolution power maps and unequalled R&r (Repeatability and reproducibility) performances. It is also insensitive to the lens position in the field of view, to name just a few unique benefits of the NIMO instruments family.

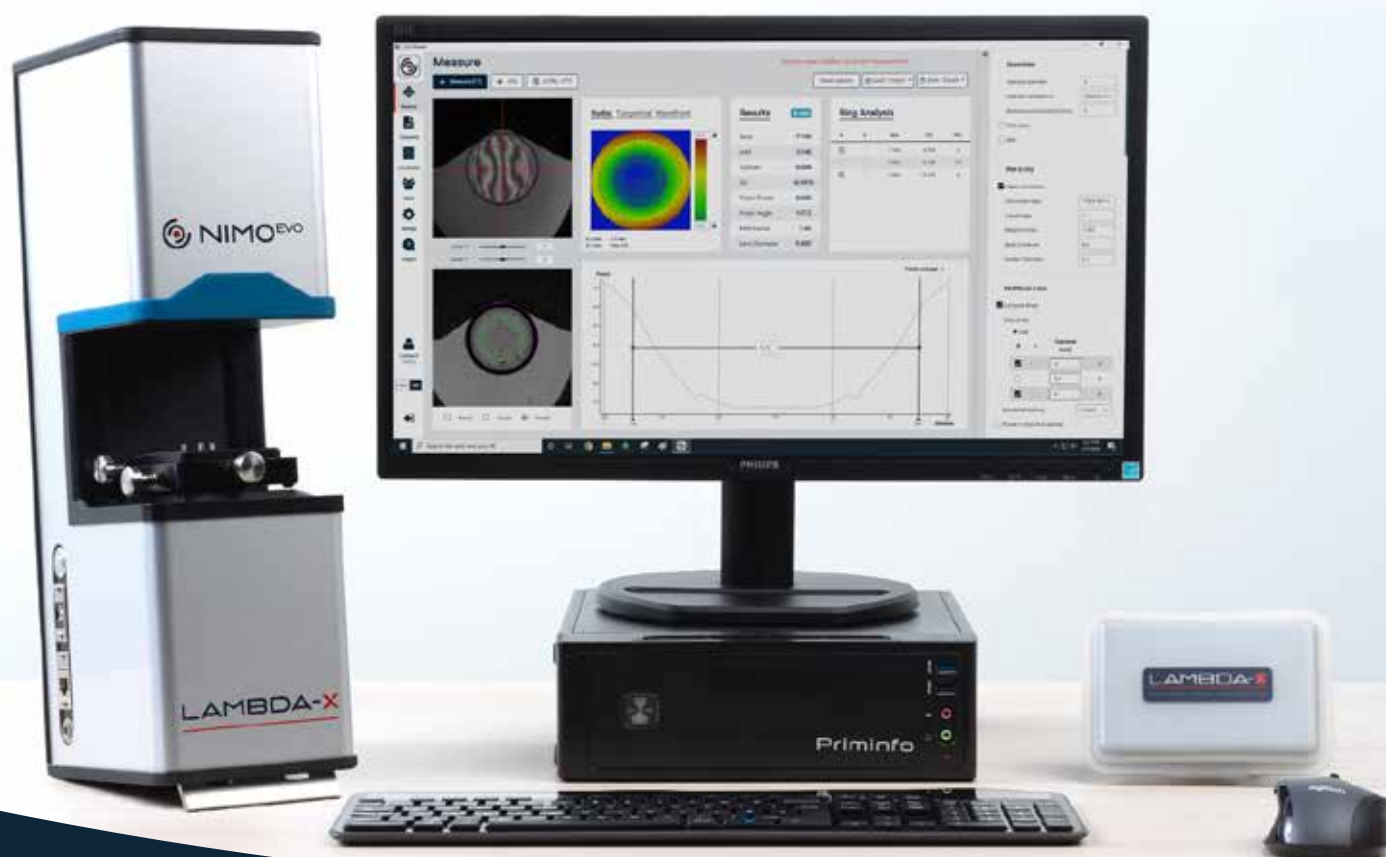
Additionally, NIMO^{EVO}® does not contain any moving parts, making the device more robust and reliable in the long term. It can also work in any position and reduces the need for maintenance. The extended power range of the device combined with its high accuracy makes it possible to measure lenses both immersed or in the air using the same instrument.

Hardware

NIMO^{EVO}® is delivered with all the necessary items and accessories to start measuring lenses from day 1. This includes as the minimum :

- ▷ 1 NIMO^{EVO}®
- ▷ 1 desktop computer with wide screen monitor
- ▷ Operating System: Windows 10 (64 bits)
- ▷ Accessories kit

Next to these items, an extended range of options, software plug-ins and accessories are available. Custom developments, hardware or software, are also part of the Lambda-X Ophthalmics line of business.



CLE-MENTOR®

Software

The instrument is delivered with the software CLE-MENTOR® application. The CLE-MENTOR® application is dedicated to the control of the instrument. It provides an intelligent and intuitive interface between the user and the NIMO^{EVO}® instrument. This application allows measurements to be saved as NIMOW project files. These files can be processed later by other users or with different parameters for further analysis without having to reprocess the lens.

The core of CLE-MENTOR® is its database which ensures a very high level of data safety by prohibiting any modification of the measurement results. The advanced user management capabilities along with a full audit log, ensures complete traceability of your data. These essential assets linked to many functionalities such as the lockable measurement templates or the automatic generation of reports (to name just a few) make the application directly compliant with the FDA 21 CFR part 11 guidelines.

Two independent working modes are available: the “R&D Mode” and “Production Mode”. These two modes can be purchased separately.

Therefore, your NIMO^{EVO}® can be delivered in the following software configurations:

- ▶ CLE-MENTOR® – R&D mode only
This mode gives access to numerous advanced functionalities of interest in an R&D environment
- ▶ CLE-MENTOR® – Production mode only
Mode specifically designed for production environment with a specific focus on its ease of use by the operators and errors prevention
- ▶ CLE-MENTOR® – FULL
Includes the two modes (R&D and Production)

All configurations of CLE-MENTOR® are compatible with FocalPoints™.

WORKS WITH

FocalPoints

Main features of CLE-MENTOR®

- ▶ Provides high resolution power maps and different tools for analysis
- ▶ Compute power on circular areas for Toric/Single vision lenses
- ▶ Compute power on ring zones for multifocal lenses
- ▶ Compute and display modulation map for cosmetic inspection of lens
- ▶ Measurement of lens diameter
- ▶ Automatic centering of the measurement area on the lens





Production workflow

Featuring two workflows, one for specialty labs and another one for large volume production.

- ▶ Define flexible batch measurement templates, conformity criteria, tolerance tables...
- ▶ Measure large batches of lenses or unique lenses in a batch, keep full traceability of your measurements...
- ▶ Manage operators access rights through the user management interface.
- ▶ Operate your entire production with QR codes.
- ▶ Communicate with your central database and integrate NIMO in your automation line with the optional remote API.
- ▶ Can be operated manually by operators, through a simple QR/barcode scan or controlled remotely without human interaction.
- ▶ And much more...

R&D workflow

- ▶ Wavefront maps and Zernike coefficients analysis
- ▶ Investigation of new optical designs with quick access to measurement options
- ▶ Lens measurement reprocessing
- ▶ Radial power maps and power profiles analysis
- ▶ Tangential power maps and power profiles analysis



Software plug-ins

The CLE-MENTOR® program can be customized through the addition of plug-ins to meet the specific needs of R&D or Production environments.

Automatic toric lens marks detection (TLMD)

This software plugin enables the automatic detection of the engravings on toric contact lenses and therefore of the computation of the axis.

Consequently, the risk of human error when the toric mark is identified by an operator is drastically reduced. Furthermore, the measurement time is noticeably improved.

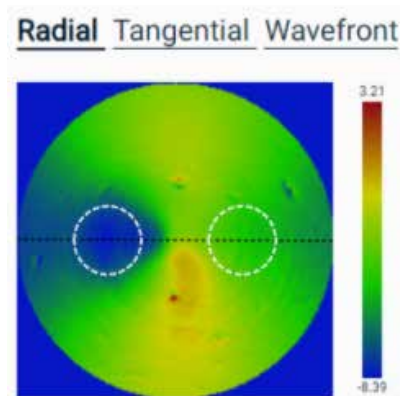
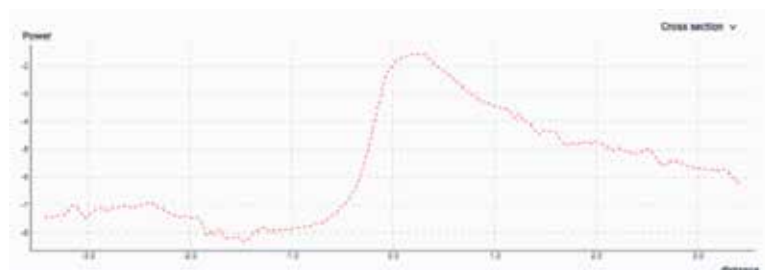
Different toric mark patterns can be defined from a dedicated interface and saved.



SECONDARY APERTURES

This software plug-in makes it possible to measure different areas on the same lens. These circular areas can vary independently by size or position.

Results in these areas can then be combined to produce base and add values for example. This capability is also very useful for the control of decentered lenses.





Polynomial correction

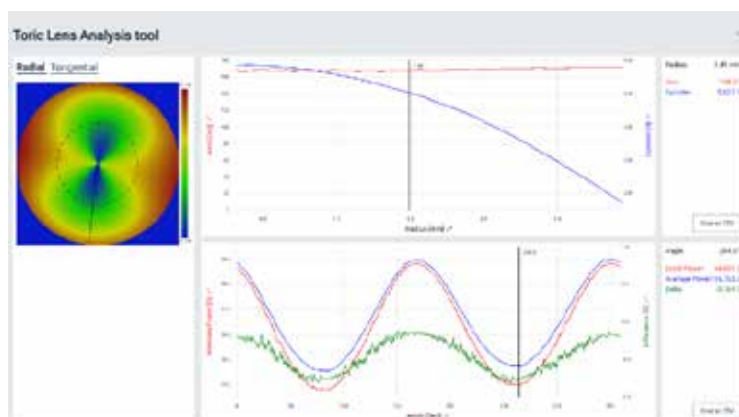
This software plug-in makes it possible to apply a polynomial correction either on :

- The different powers computed by NIMO (Sphere/base, Cylinder and addition).
- An independent correction in each ring of a multifocal lens.

	a0	a1	a2	a3	a4
<input type="checkbox"/> Sphere / Base	0	0	0	0	0
<input type="checkbox"/> Cylinder	0	0	0	0	0
<input type="checkbox"/> Add	0	0	0	0	0

Extended toric analysis

The Extended toric analysis plug-in offers functionalities for the inspection of power maps. These functionalities, although intended for the inspection of toric lenses, can be used with any type of lens. When the plug-in is available, the button "Toric Analysis" giving access to the dedicated window is visible under the power map.



Off-line reader

This license of CLE-Mentor can be installed on any Windows desktop or Laptop not directly connected to a NIMO.

- The R&D mode allows the reprocessing (with a different option set for example) of individual "NIMOW projects" which contain the raw data of a measurement.
- The Offline production workflow allows to automatically reprocess multiple "NIMOW projects" stored in a folder and for example, evaluate a new set of options or a new version of the application on a reference batch of lenses.

Offline readers are also the ideal solution to exchange data between remote parties (different production sites, lens designers, consultants...) or to use CLE-MENTOR® while travelling.

Two options exist for the Off-line reader: **R&D** workflow only or **R&D + Production** workflows.

Custom applications through API

The API (Application Programming Interface) is available as an option for CLE-MENTOR®. Like it does for all software of the MENTOR family (IOL-MENTOR, TEMPO-MENTOR, PMTF-MENTOR), it turns CLE-MENTOR® into an extremely versatile and fully customizable tool. These are some of the many possibilities that the API opens up with CLE-MENTOR®.

Remote instrument configuration

The API allows production and QA management to **set, edit and control system parameters** of all the instruments (calibration data, user management, instrument's references, etc.).

Production automation

The API opens the doors to the automation of measurements by controlling the sequence of operations, such as:

- > taking an optical reference,
- > ordering the robotic arm to place the lens into the instrument,
- > measuring the lens,
- > signalling measurement completion.

In short, the API makes it easy and convenient to **interface with robots** of any type. Upstream and downstream of NIMO^{EVO}®, it exploits its unique measurement speed: the acquisition and processing time of any type of contact lens is 1 to 2", allowing the analyzing of many items on a very short period of time.

This feature is essential to build a complete shop floor control system.

Template management

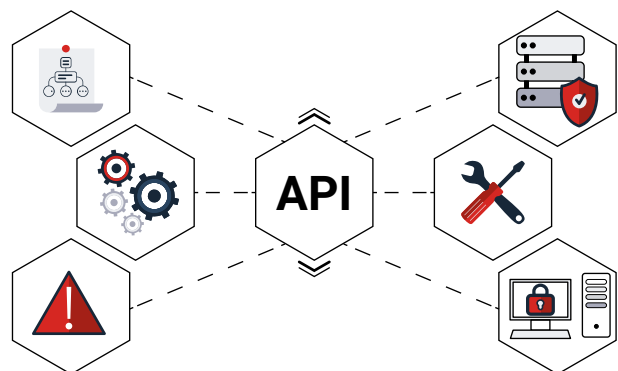
Shop floor management can create, edit and lock **measurement templates** (set of options for lens measurements, tolerances, report generation, etc.) for the entire network of Lambda-X instruments used on-site as well as in distant locations.

This function is key to build an integral shop floor control system.

Data collection

The API allows the **retrieval of all measurement data** from NIMO^{EVO}® database in real time, as well as the transmission and processing of the data in the customer's applications (lens registration, QA conformity, trend analysis, ERP, etc.).

This function is key to build an integral shop floor control system.



The API can basically be used either in proprietary shop floor management systems – that can control a vast network of Lambda-X ophthalmic instruments in several locations – or as an integrated software with FocalPoints™ for immediate deployment on the production floor.

WORKS WITH

FocalPoints



Accessories

Your NIMO^{EV0}® is shipped with various specific accessories for the optimal use of the instrument. Measurement cells or certified lenses can be added to your package along with a fully configured PC. By offering these accessories, Lambda-X ensures the best use of the instrument in various environments.



Specific measurement cells

Quartz cells are designed for a reliable measurement of contact lenses. All our cells have been tested interferometrically to ensure they do not bias the assessment of the lens.

- WET Cell
- V-Part for WET Cell (black insert)
- Large SAG WET Cell
- DRY Cell

Certified lenses for NIMO

Several sets of calibrated plano-convex glass lenses are available to choose from.

Individual Spherical or Toric lenses are available from our stock and custom lenses can also be manufactured upon request.

Our calibrated lenses are measured at the end of manufacture. We certify the lenses by crossing measurement data with a NIMO measurement.

Optionally, toric lenses can be engraved for axis error assessment with the TLMD plugin.



Certified diameter standards

Several certified diameter standards are available to choose from. All our standards come with ISO compatible documentation on measurement uncertainties and calibration certificates.

Available diameters: 6mm, 8mm, 10mm, 13mm, 14mm, and 15mm.

SERVICES

Lambda-X is happy to provide its customers with a wide range of services for the optimal use of IOL and CLE inspection instruments.

Technical support agreement (TSA)

The proposed plan, annually renewable, covers your NIMO^{EVO}® and includes the following services:



Maintenance & recertification

- ▶ A complete verification of the functionalities of the instrument.
- ▶ A verification of the light source power.
- ▶ General cleaning of the instrument.
- ▶ Annual recertification of the instrument at your plant or at Lambda-X and issue of a new calibration certificate.



Software update

- ▶ Access to all updates for your current software version.
- ▶ Access to release notes/documents.
- ▶ Remote support to instal, configure of your CLE-MENTOR® software.



Remote support

- ▶ Software and operational guidance.
- ▶ Assessment of your measurements by the product manager.
 - > By phone,
 - > By email,
 - > By TeamViewer.





TECHNICAL SPECIFICATIONS

- ▷ Dynamic range -35.00 to +35.00 on 6mm
- ▷ Dynamic range -15.00 to +15.00 on 15mm
- ▷ Suitable for both RGP's and soft Contact Lenses
- ▷ Suitable for Spherical, Multifocal, Aspheric Toric & Multifocal Toric lenses
- ▷ Automatic Toric mark detection (optional)
- ▷ Insensitive to lens alignment
- ▷ Measurement results independent from operators
- ▷ Very High resolution power maps and power profiles
- ▷ Wavefront maps with Zernike analysis
- ▷ One-time calibration
- ▷ Power accuracy: 0.5% of nominal power with a minimum of 0.02D for optical power on 3 mm.
- ▷ Diameter accuracy: 0.2% of nominal diameter, 0.3% for diameters < 10 mm





Wishing to know more about
available instruments?

Contact us:

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WORLD LEADER IN WAVEFRONT METROLOGY



LAMBDA-X
OPHTHALMICS

Countries counting at least one Lambda-x Ophthalmics instrument