OPTOCRAFT
a MICRO-EPSILON company

VOPTICS
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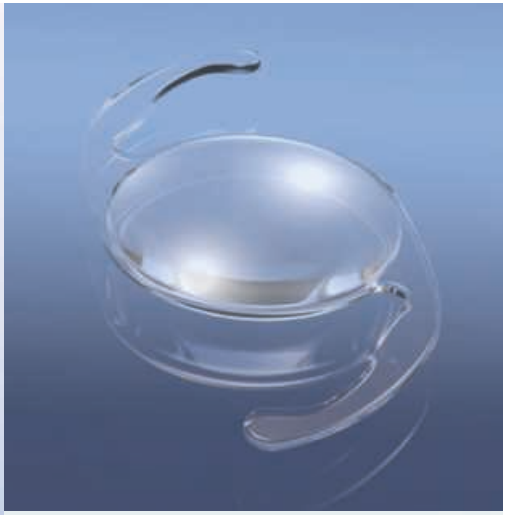
MICRO-EPSILON

Sensors & Solutions
Ophthalmic lens metrology



More Precision

The authority in ophthalmic lens metrology

The Micro-Epsilon Group brings together leading experts in optical measurement and inspection technology. With innovative solutions for wavefront sensing, precision measurement and automated defect inspection, the group sets new standards in quality and efficiency for the ophthalmic industry. Together, Micro-Epsilon, Optocraft, and V-OPTICS enable the development and production of optical systems with unmatched accuracy and reliability.

MICRO-EPSILON

OPTOCRAFT
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V-OPTICS
a MICRO-EPSILON company

Standard products

- Customer centric measurement solutions
- Configurable to meet customer needs

Integration into the customer's environment

- At-line, In-line automation
- Data, control and handling integration

Training, support & consulting

- Added value for industry-leading metrology
- Competent and fast

Customer-specific developments

- Software, hardware and more
- Special machine building

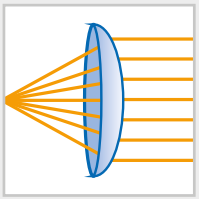
Transform and scale your metrology!

- Leading range of metrology solutions from one source
- Game changing performance: speed, ergonomics & precision
- More Precision inspection system and sensor devices
- Broadest technology basis for ophthalmic industries
- One team of application experts, one point of contact

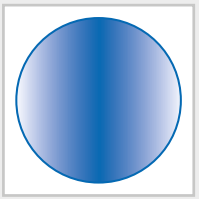
Your first contact:

Optocraft GmbH
sales@optocraft.de
www.optocraft.com

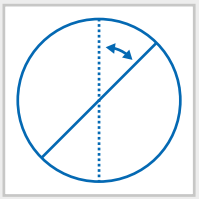
Product Overview: **Refractive data, imaging quality**



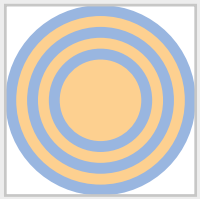
Sphere power



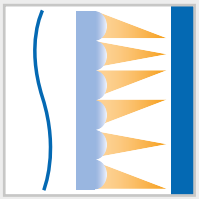
Cylinder power



Cylinder axis

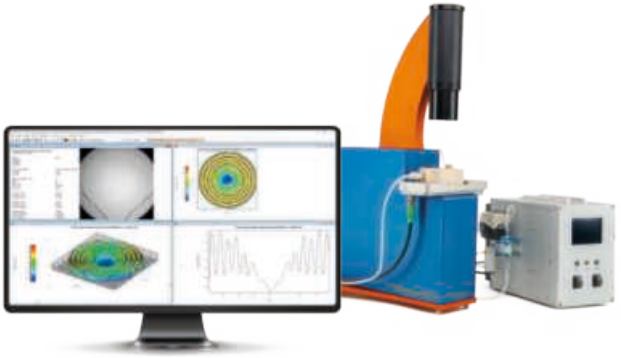


Power map



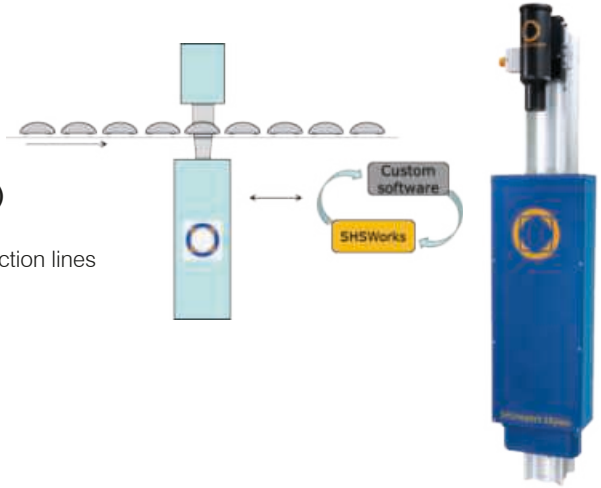
Imaging quality

MTF



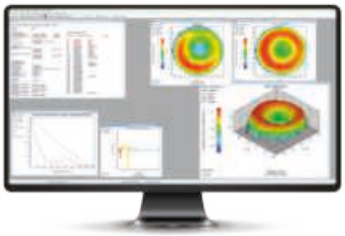
SHSInspect prio

- Contact lenses and intra-ocular lenses
- ±35 Dpt measurement without moving parts
- Industry-leading precision and accuracy
- Unmatched ergonomics with open-top cuvette
- Temperature stabilization± 0.1°C



SHSInspect 1Xpass (for automation)

- Contact lenses and intra-ocular lenses
- Inline-ready – integrates easily into production lines
- Measures in the blink of an eye

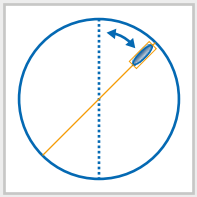


SHSLab

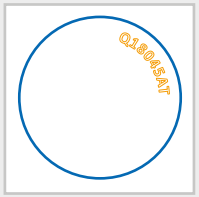
- Measures wavefront of optics and lasers
- High speed, single-shot
- Excellent sensitivity of few nm RMS
- Compact, robust design – ideal for lab and inline integration

Product Overview: **Defects, marks & engravings**

Defects



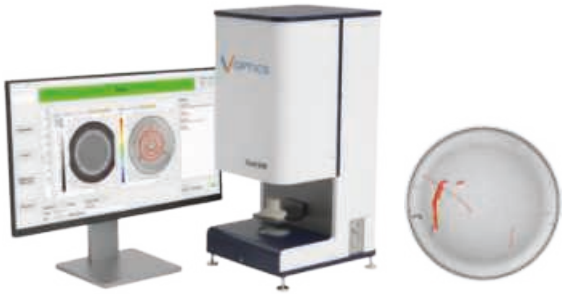
Axis marks



OCR

QualiLENS 100/300

- Contact lenses, intra-ocular lenses and eyeglasses
- Objective defect detection and verdict
- Covers all defects: scratches, chips, tears, lathe marks, etc.
- Minimizes operator variability
- Samples up to Ø90mm

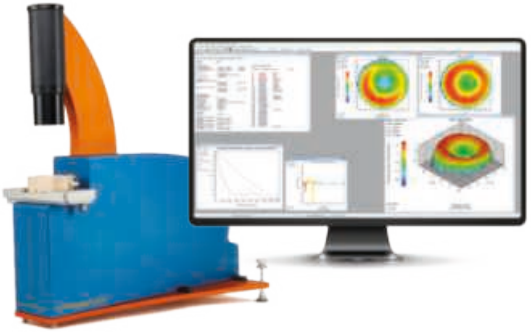


QualiLENS 150

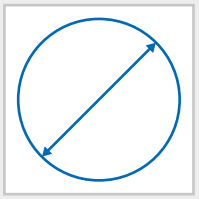
- Intra-ocular lenses and contact lenses
- Automated defect detection
- Batch measurement of lenses in trays (e.g. 91 lenses)
- Smart operation with loading/unloading stations
- Easy to use with touchscreen interface

SHSInspect prio

- Advanced visual inspection mode
- Finds even the most feigned marks
- Visualize geometric features and zones

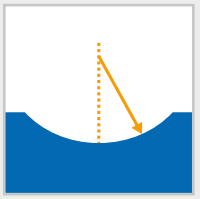


Product Overview: **Geometry**



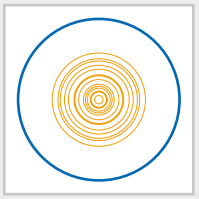
Diameter

Sag

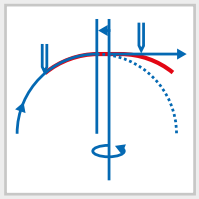


Radius of curvature

Surface shape



Surface defects



MTF

SHSInspect autoROC

- Semifinished CL & IOL, moulds and metal tools
- Precision surface analysis: shape, apex & mean radius, conic type, etc.
- Automated measurement of tool offset for lathe calibration.
- Visualisation of defects
- Seamless integration into robot environment

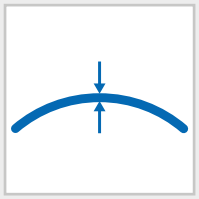
SVC

VCC

SHSInspect prio

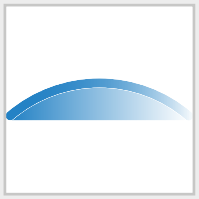
- High precision measurement of geometric parameters
- Vision Control Camera (VCC) for diameter
- Side View Camera (SVC) for sag and equivalent base curve (EBC) of contact lenses

Product Overview: **Sensors for thickness & color**



Center thickness

Contour



Color

confocalDT

- High precision inline and offline measurement of geometric parameters
- Non contact and fast
- Center thickness measurement of contact lenses and moulds
- Center and haptic thickness measurement of intraocular lenses

interferoMETER

- Precise thickness measurements of lenses
- Measurement of air gap (e.g. lens stack)
- Resolution in the sub-micrometer range

colorSENSOR

- Transmission spectrum of eye glass
- Color of packages

Success stories

Every breakthrough begins with a vision. Across the ophthalmic industry, Micro-Epsilon, Optocraft, and V-OPTICS turn complex challenges into success stories that redefine what's possible in the ophthalmic industry.

Success Story

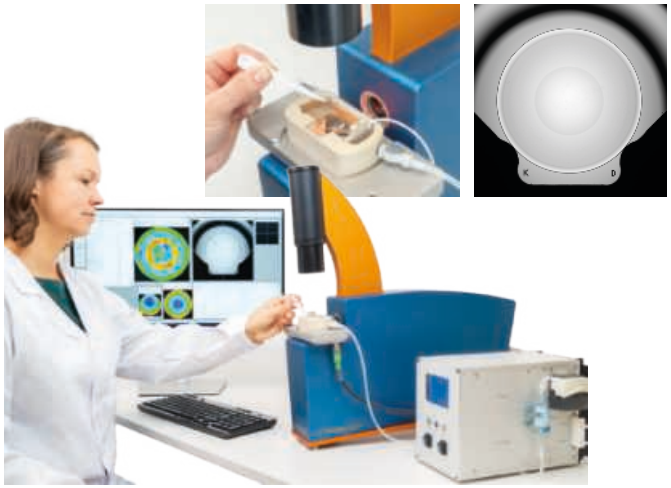
Increased precision and ergonomics in contact lens testing

A leading manufacturer of contact lenses faced a challenge: their previous lensmeter showed high operator variability, slow measurement speed and long training times, particularly for toric and multifocal contact lenses. Thanks to the innovative inspection systems from Optocraft and V-Optics, they now achieve unmatched inspection results in a shorter amount of time.

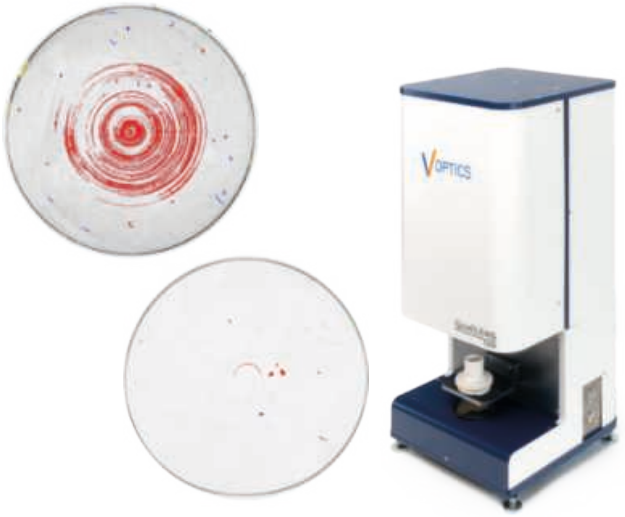
Solution:
- SHSInspect prio
- QualiLENS 100

Customer benefits:
- Faster and more precise measurements
- 100% objective defect measurement
- Evaluation beyond refractive data: image quality analysis for improved lens performance
- Access to proven metrology expertise

Result:
Greater efficiency, superior lens quality, and a clear competitive edge.



SHSInspect prio
Refractive power, diameter, sag, imaging quality



QualiLENS 100
Automatic defect detection and classification

Success Story

Automation in IOL production

A leading intraocular lens (IOL) manufacturer relied on visual inspection for semi-finished and finished lenses. This approach caused quality risks in lathing – with costly diamond tools – and low efficiency in defect detection due to human subjectivity. An automated inspection solution enabled full defect qualification of lenses and improved the tool lifetime.

Solution:

- SHSInspect autoROC
- QualiLENS 150
- QualiLENS 100

Customer benefits:

- Extended tool lifetime and stable production quality
- Higher throughput and reproducibility in defect detection
- Reliable quality assurance through full automation

Result:

Maximum process efficiency, cost savings, and consistent IOL quality for improved patient outcomes.

QualiLENS 100

Automatically measures and inspects IOL lenses for shape, engraving, and surface defects.

SHSInspect autoROC

Automatic surface and radius measurement ensures consistent process control, protecting tool life and lathing quality.

QualiLENS 150

Automated measurement of 91 IOLs per batch delivers fast, objective defect recognition. A dedicated sorting station eliminates human error from judgment.

Success Story

High precision automation in eyeglass manufacturing

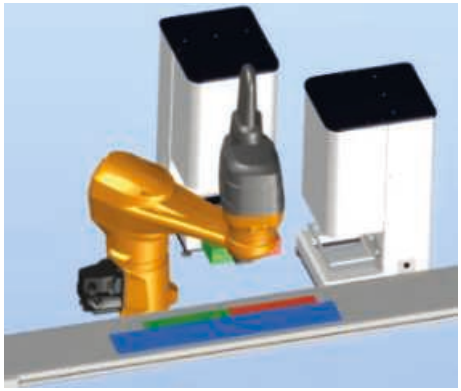
A leading lens manufacturer still relied on traditional lensmeters for power and centration checks. With growing demand for thinner, more precise and flawless lenses, they sought modern metrology to improve refractive accuracy, cosmetic quality and geometric control.

Solution:
- SHSLab
- QualiLENS 300
- confocalDT

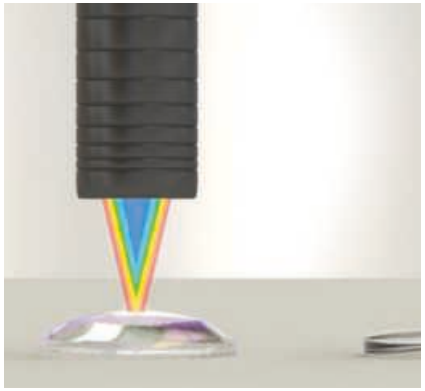
Customer benefits:
- Higher precision and reproducibility
- Automation
- Full traceability of optical quality
- Direct feedback for production

Result:
- Refractive lens finishing: centration errors reduced, power accuracy improved dramatically.
- Cosmetic & geometric inspection: inline control ensures flawless surfaces and perfect geometry

Application 1:
Refractive power & centration
Solution: SHSLab – Fast wavefront evaluation in 0.1 sec per lens for sphere, cylinder, axis, and prism during edging.



Application 2:
Inline defect inspection
Solution: QualiLENS 300 with robotic sample feed. Its 90×90 mm² field of view at 0.023 mm resolution ensures rapid, reliable quality checks.



Application 3:
Thickness & contour measurement
Solution: confocalDT – Non-contact measurement of center thickness and lens position with micrometer precision.

The authority for ophthalmic lens metrology

Sensors and inspection systems for manual and automated operation

The Micro-Epsilon Group brings together leading companies in the field of industrial measurement and inspection technology. With Optocraft and V-OPTICS, the group includes two highly specialized companies with technological focus for the ophthalmic industry. Together, the companies of the Micro-Epsilon Group offer a uniquely broad range of precision measurement technologies for the ophthalmic industry – from development, quality inspection to serial production.

Customer centric by passion

We create customer-centric as well as customer specific solutions in order to help you to achieve your quality targets. Our systems combine seamless integration, intelligent connectivity, and custom development to perfectly fit your workflow. With expert guidance and responsive support, we help you turn precision into performance.

MICRO-EPSILON

For more than 55 years, Micro-Epsilon has stood for innovation, precision, and reliability in sensor technology – from distance and infrared temperature measurement to color recognition and advanced systems for dimensional measurement and defect inspection.

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OPTOCRAFT
a MICRO-EPSILON company

Since 2001, Optocraft has been pushing the boundaries of optical metrology with innovative wavefront sensors and advanced optical test systems. Its industrial-grade measurement technology empowers customers around the world to achieve highly accurate and efficient quality control of optical systems in both development and production environments.

Your first contact
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V-OPTICS
a MICRO-EPSILON company

V-Optics is a specialist in automated optical inspection and measurement systems that characterize transmissive lenses using advanced phase-shifting deflectometry technology. Its solutions help manufacturers in ophthalmics achieve reliable, objective defect detection and traceable quality control in production environments.

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