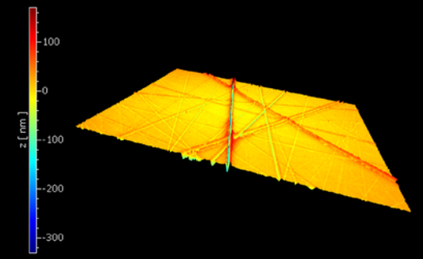
Polytec

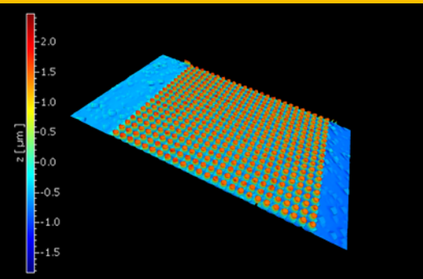
TopMap Micro.View & Micro.View+

Next generation optical profiler

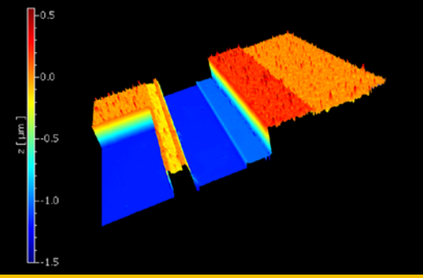
Product brochure



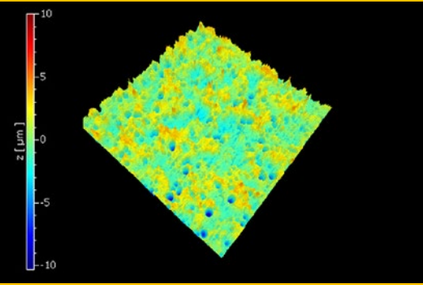
Measure surface roughness



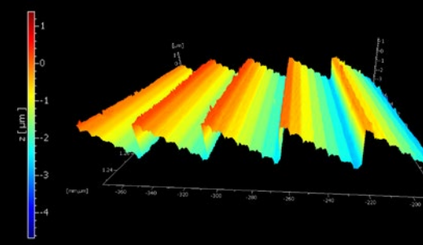
Analyze microstructures



Measure wafers



Material science / tribology



Characterize optical components

Non-contact characterization of surface details

For measuring the finest details in surfaces, the TopMap series of optical profiler systems are the preferred solution. From microscopes to macroscopes, Polytec has a product to meet the toughest of applications needs.

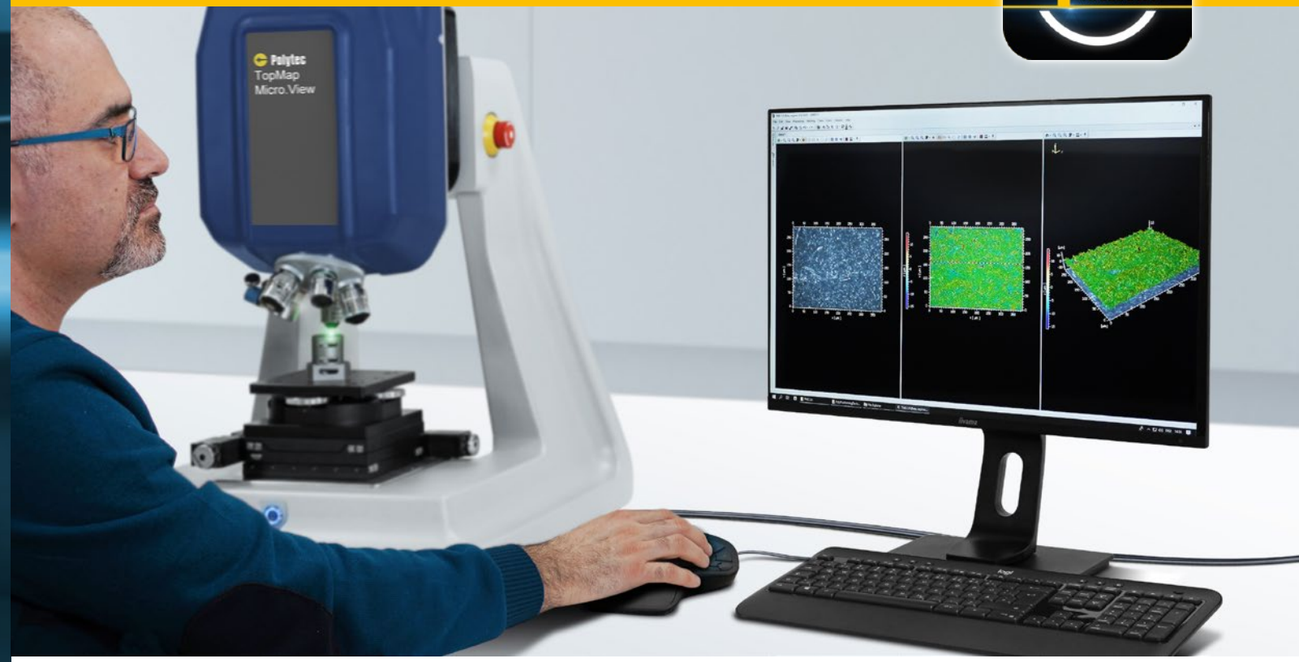
Since 1967 Polytec has continued to deliver leading edge optical measurement technology. The latest generation optical profilers, the TopMap Micro.View® and Micro.View®+ offer unparalleled capabilities. Analyze all types of surfaces for roughness, microstructures, wear, sealing performance and much more. The optical, non-contact topography measurement helps meet tight tolerances in precision engineering and raises quality control of functional surfaces to a whole new level.

Why measure with TopMap white-light interferometers?

- Non-contact, non-destructive and repeatable
- Real information in 3D from almost any surface
- High precision and reliability, easy to automate
- Excellent lateral resolution
- Excellent vertical resolution independent of objective magnification

Optical 3D profiling with cutting-edge Coherence Scanning Interferometry (CSI)

Polytec 4 YEAR WARRANTY



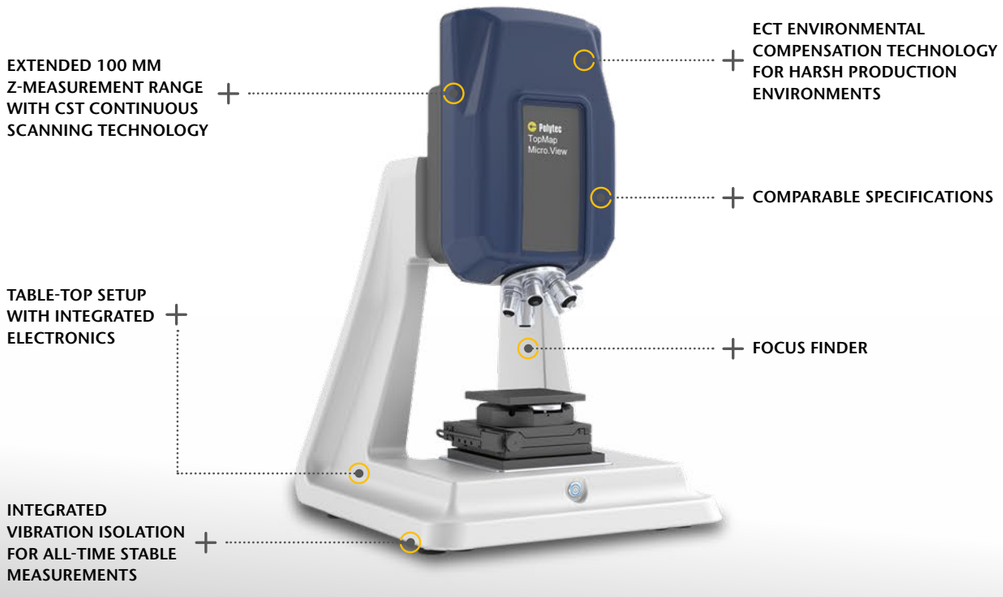
Reliable, precise, innovative

Micro.View® and Micro.View®+ are the next generation optical surface profilers. The advanced Focus Finder and Focus Tracker greatly enhance the ease of use under all conditions, and, the CST Continuous Scanning Technology allows for using the entire travel range of up to 100 mm as extended measurement range. Distinguish and document defects and visual distortions with the latest color information imaging analysis. Quantify surface topography with sub-nanometer resolution and capture the finest details reliably.

Join the PolyXperts network for expertise, service and support throughout any phase.

Learn more and visit
polytec.com/surface-metrology/products

TopMap Micro.View®
Table-top optical surface profiler



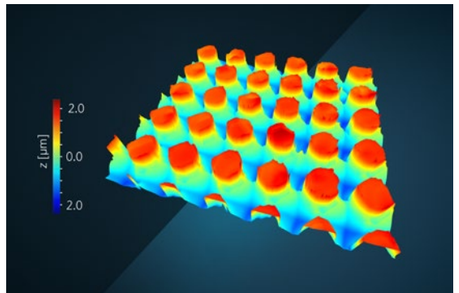
TopMap Micro.View® is an easy to use and compact optical profiler. Combine exceptional performance and affordability with this powerful metrology solution. An extended 100 mm Z-measurement range with CST Continuous Scanning Technology allows complex topographies to be measured at nm resolution.This convenient table-top setup features integrated electronics, with the advanced Focus Finder simplifying and speeding up the measurement procedure.

Small footprint with expanded capability

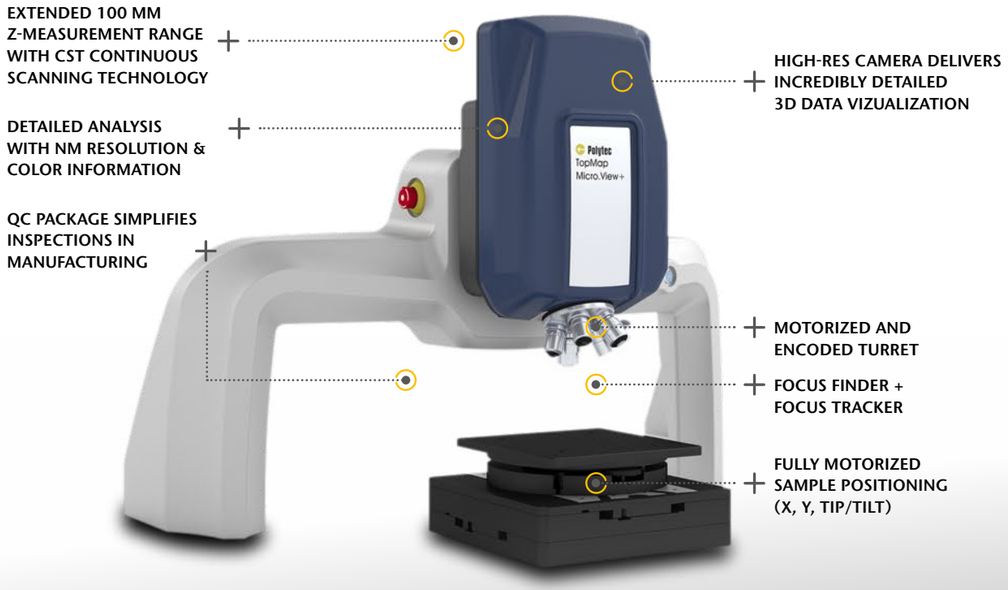
Benefit from the optional ECT Environmental Compensation Technology, securing reliable and accurate measurement results even in noisy and challenging production environments. Micro.View® is the cost-effective quality control instrument for inspecting precision engineered surfaces in the field of manufacturing and research.

Highligths

- Measure surface finish in a compact setup with nm resolution
- 100 mm Z-measurement range with CST Continuous Scanning Technology
- Cost-effective quality control solution



TopMap Micro.View®+
Next generation optical surface profiler



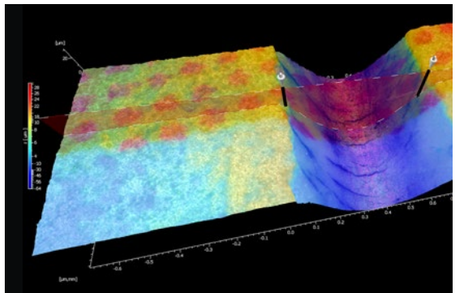
TopMap Micro.View®+ is the next generation optical surface profiler. Designed for modularity, this comprehensive workstation allows for customized and application-specific configurations. The Micro.View®+ delivers the most detailed analysis of surface roughness, texture and microstructure topography. Combine 3D data with color information for amazing vizualizations and extended analysis like detailed documentation of defects. The high-resolution camera delivers incredibly detailed 3D data vizualization of engineered surfaces.

Automation enabled and production-ready

The encoded and motorized turret secures a seamless transition between objectives. Micro.View®+ also features the latest Focus Finder plus Focus Tracker, keeping the surface in focus at all circumstances. The fully motorized sample positioning stages allow for stitching and automation.

Highligths

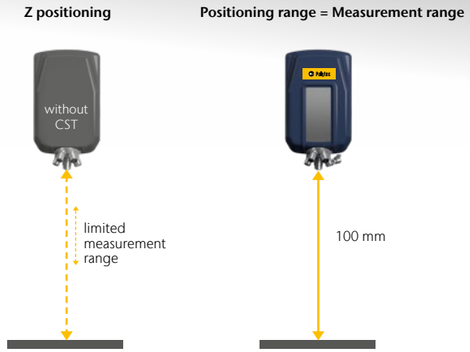
- High-end white-light interferometer with nm resolution
- With Focus Finder and Focus Tracker ready for automation
- Motorized X, Y, Z, tip/tilt and turret save repositioning



Precision measurement driven by innovation

01 CST Continuous Scanning Technology

With the integrated CST Continuous Scanning Technology, the optical profiler uses the entire travel range for measuring smoothly and continuously. This means more positioning freedom, faster setup and less maintenance.



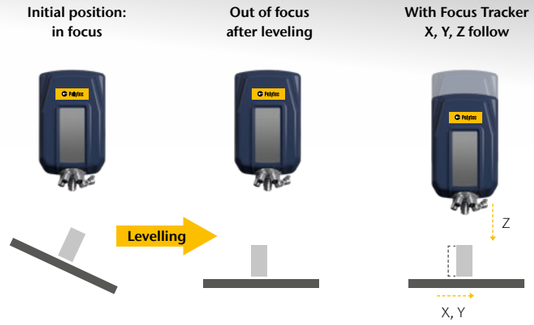
Benefits

- **Extended measurement range**
  High performance data acquisition for full range of motion
- **Precision Z drive**
  Part focus and measurement with one stage
- **Extended vertical range**
  Measure tall samples

Maximum flexibility in sample positioning

02 Focus Tracker

Keep the object surface in focus with automated readjustment and minimize time between measurements. As a fully motorized configuration (X, Y, Z, and tip/tilt) the Micro.View®+ with Focus Tracker delivers repeatable and reproducible measurements in all positions.



Benefits

- **Always in-focus/ automated re-adjustment**
  Automated focus tracking saves repositioning
- **Fully motorized turret, XY, Z, tip/tilt**
  Reproducible measurements

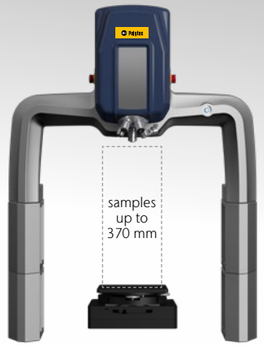
Focus Tracker follows the measurement position

03 Modularity & customization

Since all measurement environments are different, the modular concept of the Micro.View®+ allows customization to comply with individual requirements and even transform into a fully automated in-line quality control system.

TopMap Micro.View®

TopMap Micro.View®+



Benefits

- **Micro.View®:**
  Compact, table-top setup, ready to go
- **Micro.View®+:**
  - Modular concept for varying sample heights (samples up to 370 mm)
  - Head-only for in-line inspections, flexible and easy to integrate

Flexible heigths – for samples up to 370 mm

Integration in production lines

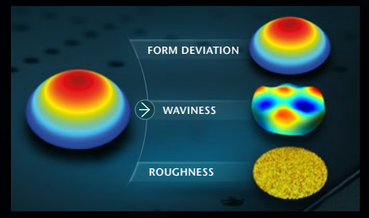
Integrated software as complete solution

Data acquisition

- POSITIONING
- MEASUREMENT
- ILLUMINATION
- SIGNAL

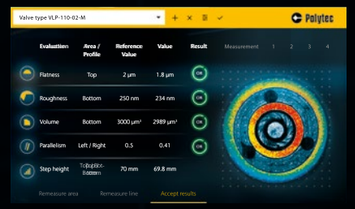
Setup the data acquisition in detail for repeatable measurement and traceable results. Generate, save and load acquisition settings with ease.

Data evaluation



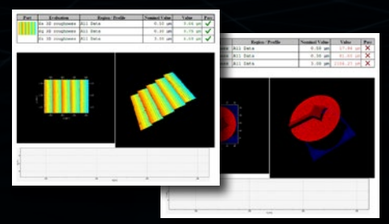
Analyse 3D surface data with extensive set of surface parameters (including ISO 25178) and thanks to direct access to acquisition settings use them as further decision criteria for your analysis.

Automation



Pre-defined measurement recipes help reduce complexity with an intuitive user interface. The QC Operator Interface is ideal for routine and repetitive inspections.

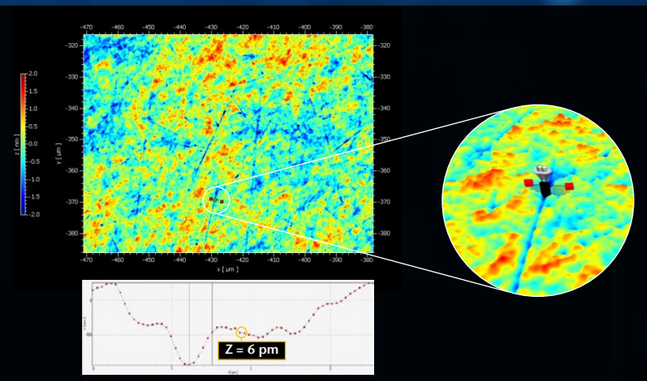
Reporting



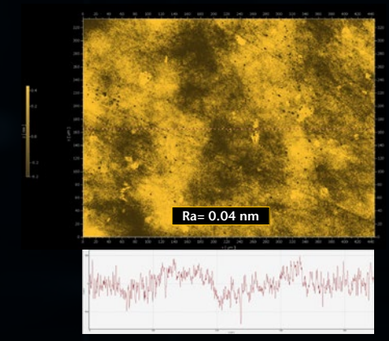
Generate and update reports concurrently with a simple set-up in the all-in-one TMS software. Ensure traceability by also recording evaluation steps.

Outstanding measurement performance & capability

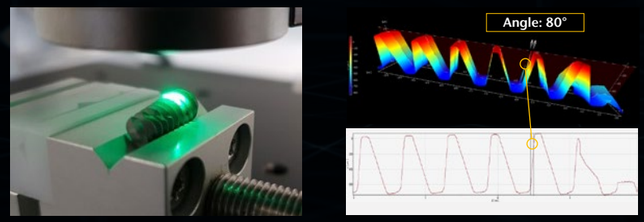
Characterizing small details and microstructures
Sample:
polished optical surface



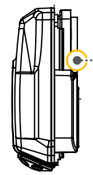
High-resolution roughness measurement <1nm
Sample:
polished silicon surface



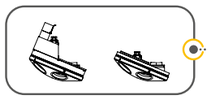
Surfaces with high slopes and steep angles
Sample:
dental implant screw



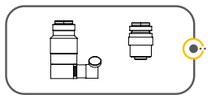
Configuration & options
Micro.View vs Micro.View+



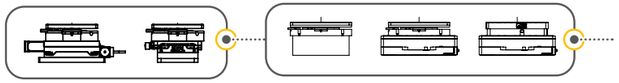
SENSOR HEAD
Micro.View with optional focus finder
Micro.View+ with optional color information and 5MP camera



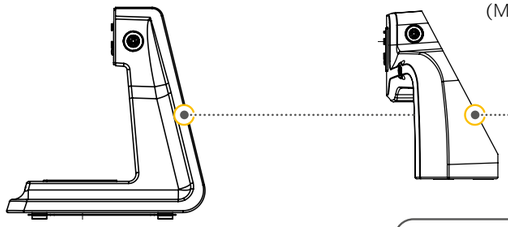
TURRET
Manual or
motorized (Micro.View+ only)



OBJECTIVES
0.6x .. 111x



POSITIONING STAGES
Manual or motorized options;
75 x 75mm XY incl tip-tilt (Micro.View),
200 x 200mm XY, motorized tip-tilt option
(Micro.View+)



STANDS
Integrated table-top vs modular,
optional spacers for sample heights
up to 370 mm

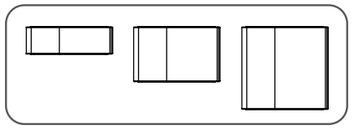
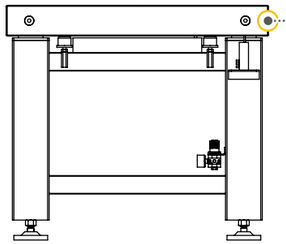


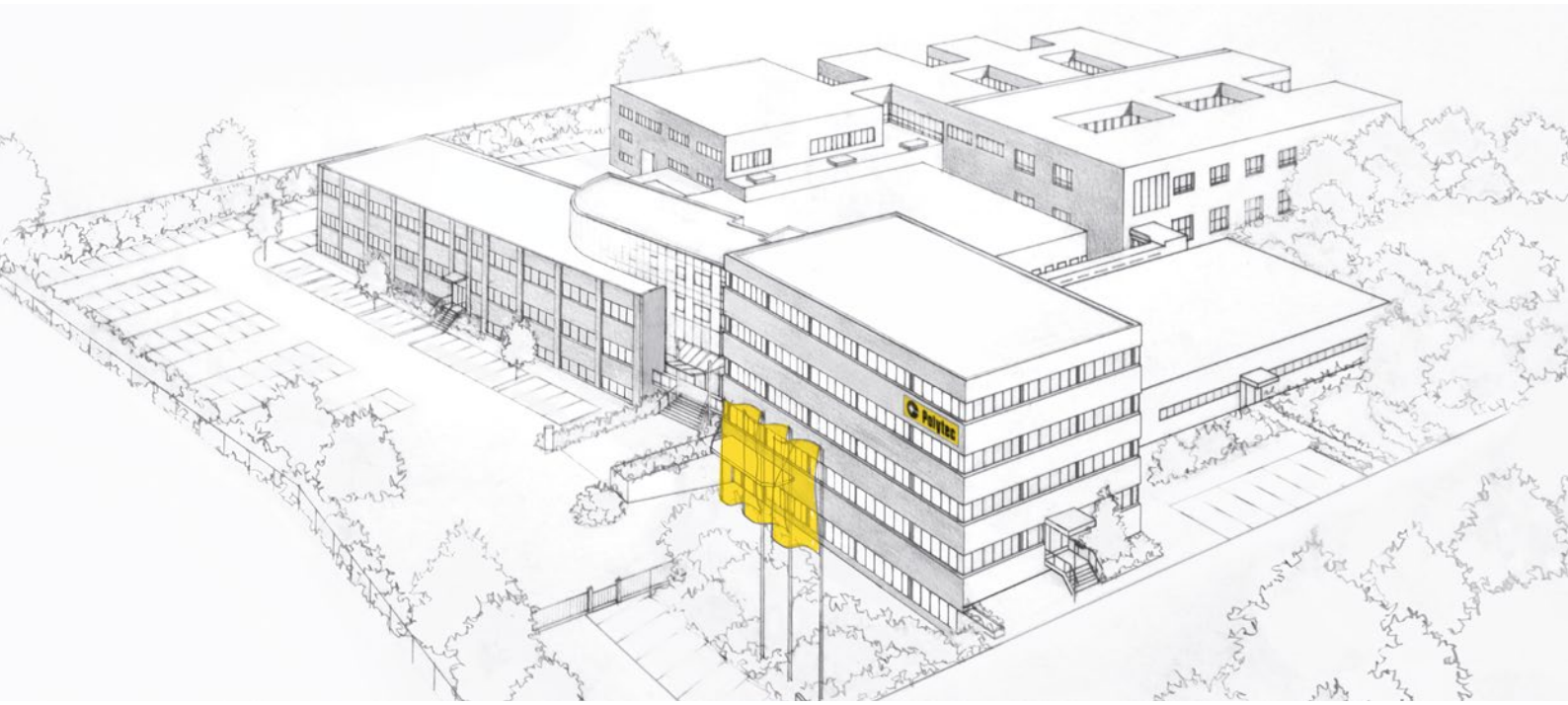
TABLE-TOP
Only Micro.View



VIBRATION ISOLATION
Passive or active options
(pneumatic or electronic control)

Measuring capabilities	
Measurement principle	Coherence Scanning Interferometry (CSI) / White-Light Interferometry
Camera pixels	Micro.View: 1.3 MP Micro.View+: 1.9 MP
Calculated lateral optical resolution δ_L [1]	down to 400 nm
Digital resolution [2]	0.01 nm
Surface reflectivity	Works on any surface from shiny to scattering (Reflectivity 100% to 0.05%)
ISO parameters	Including ISO 25178, ASME B46.1, ISO 4287, ISO 13565, ISO 21920
Objectives	0.6x to 111x objectives (long working distance and cover glass compensation options available)
Maximum measurable angle [3]	53° (mirrored surface) 86° (scattering surface)
Z positioning range	100 mm
Z measurement range [4]	100 mm, without limitation on measurement performance
Measuring speed [5]	100 µm/s
Stitching	Acquires up to 500 million data points, advanced options are available
Automation	Measurements can be made fully automatic with automatic data export and reporting
Auto Focus	Available as standard. Optional advanced Focus Finder with additional hardware available
True Color option	Hardware option available for Micro.View+ and Micro.View+ Compact

[1] According to Rayleigh criterion, related to a central wavelength of 525 nm
[2] Z correlogram algorithm sensitivity, smallest vertical detail shown in digital data
[3] Surface and objective dependent
[4] Limited by working distance of objective
[5] Depends on size of area of interest (AOI) and sampling increment. Given value for reduced AOI and 327 nm sampling increment



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OM_PB_MicroView_E_52174
2024/04 Technical specifications are subject to change without notice.