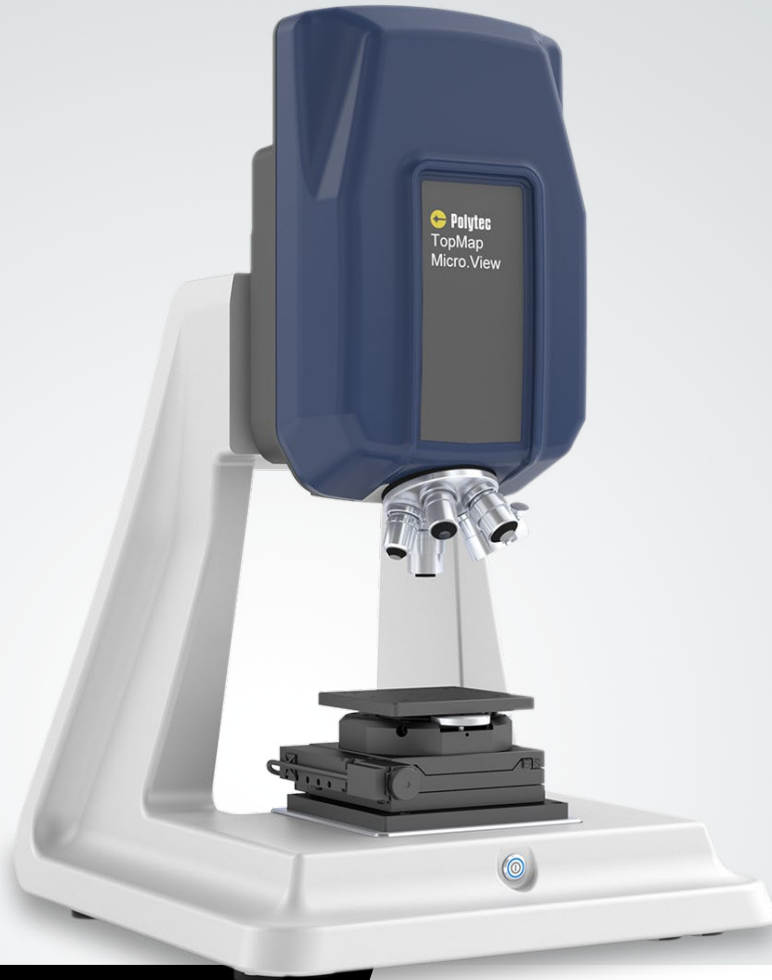




TopMap Micro.View //

Datasheet



Table-top optical profiler
for 3D roughness

TopMap Micro.View® is an easy to use and compact optical profiler. Combine exceptional performance and affordability with this Coherence Scanning Interferometer. The extended 100 mm large Z measurement range with Continuous Scanning Technology (CST) measures microstructures and textures of precision surfaces with sub-nm resolution. The convenient table-top setup features integrated electronics, with the advanced Focus Finder simplifying and speeding up the measurement procedure.

Benefit from the optional ECT Environmental Compensation Technology, enabling reliable and accurate measurement results even in noisy and challenging production environments. Add the custom TopMap 0.6x lens expanding your capabilities for high resolution form measurements. The advanced Focus Finder simplifies and speeds up measurement procedures. Micro.View® is the cost-effective quality control instrument for inspecting precision engineered surfaces, roughness and micro topography in the field of manufacturing and research.

Highlights //

- | | |
|---|--|
| + Sub-nm resolution profiler with small footprint | + Excellent lateral resolution |
| + Advanced Focus Finder for faster procedures | + Application-specific objectives 0.6x – 111x, manual turret |
| + Full 100 mm Z measuring range with CST Continuous Scanning Technology | + Positioning stage options XY 20/ 75/ 100 mm |

Technical data //

The information for the optical profiler TopMap Micro.View® (TMS-1400) complies with the Fair Data Sheet (VDI/VDE-EE 2655-3) for optical surface measurement devices. Additional specs are highlighted in grey.



General features	
Working principle	Coherence scanning interferometry
Nominal vertical measurement range in a single measurement	100 mm
Positioning range of workpiece ¹	X = 100 mm, Y = 100 mm, Z = 100 mm; motorized X = 75 mm, Y = 75 mm, Z = 100 mm; motorized X = 20 mm, Y = 20 mm, Z = 100 mm; manual
Tip/tilt	automated and motorized options
Max. number of measuring points in a single measurement	N _x : 1352; N _y : 1000; N _{xy} : 1352000
Max. number of measuring points in a stitched measurement	N _{xy,max} = 500 million
Surface reflectivity	SST Smart Scanning Technology works on any surface from shiny to scattering; reflectivity 100% to 0.05%

¹ With optional XY-positioning stage

General specifications

Dimensions [L x W x H]

Stand	520 x 575 x 540 mm ³
Sensor head	270 x 440 x 182 mm ³

Weight

Stand ¹	26 kg
Sensor head ²	12.8 kg

Recommended temperature range for measurement	20 ±3 °C
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Permissible temperature gradient	1 K/h
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Operation/storage temperature	+10 °C ... +35 °C (50 °F ... 95 °F) / -10 °C ... +65 °C (14 °F ... 149 °F)
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Relative humidity	max. 80 %, non-condensing
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Power	100 ... 240 VAC ±10 %, 50/60 Hz, 100 W system + 120 W PC
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¹ With optional 75 mm XY-positioning stage

² Without objectives

Configuration possibilities

Hardware included	Manual tip-tilt stage, encoded turret, precision Z drive with CST Continuous Scanning Technology, integrated vibration isolation
Hardware options	Objectives, advanced Focus Finder, various sample stages (motorized/ manual) incl. tip/tilt, joystick, barcode reader, calibration sets, active vibration isolation breadboard
Software included	3D data acquisition with multiple operation modes, SST Smart Scanning Technology, 2D/3D data evaluation features, automation with recipes, ISO roughness analysis, (ISO 25178, ISO 4287, ISO 4288, ISO 21920, ASME B46.1), easy pre-scan, critical dimension evaluation
Software options	ECT Enviromental Compensation Technology, QC Quality Control package, operator interface, pattern matching, software customization, MountainsMap

Objective-specific features										
	0.6x	2.5x	5x	10x	20x	50x	100x	111x	4x LWD	10x SLWD
Measurement area in a single measurement										
X [mm]	13.19	3.17	1.59	0.79	0.39	0.16	0.08	0.07	1.98	0.79
Y [mm]	9.76	2.34	1.17	0.58	0.29	0.12	0.06	0.05	1.47	0.58
X·Y [mm²]	128.69	7.43	1.86	0.46	0.12	0.019	0.005	0.004	2.90	0.46
Extended lateral measurement range (stitching) ¹										
Maximum area [mm²]	5625/ 10000 ²	2737	684	171	42	6	1	1	1069	171
Maximum unidirectional length [mm]	75 / 100 depending on xy stage									
Working distance [mm]	9.2	10.3	9.3	7.4	4.7	3.4	2	0.7	27	28
Usable vertical measuring range ³ [mm]	9.2	10.3	9.3	7.4	4.7	3.4	2	0.7	27	8.6
Maximum workpiece height [mm]	22.5	60	100	100	100	100	100	100	42	8.6
Numerical aperture	0.015	0.075	0.13	0.30	0.40	0.55	0.70	0.80	0.10	0.18
Maximum measurable local slope α	0.86°	4.30°	7.47°	17.46°	23.58°	33.37°	44.43°	53.10°	5.74°	10.37°
Measuring point spacing Δ_x/Δ_y [µm]	9.76	2.34	1.17	0.59	0.29	0.12	0.06	0.05	1.47	0.59
Calculated lateral optical resolution δL ⁴ [µm]	21.35	4.27	2.46	1.07	0.80	0.58	0.46	0.40	3.20	1.78

¹ With optional XY-positioning stage

Continued table p. 6 ->

² With 75 / 100 mm xy stages

³ Limited by objective working distance and workpiece geometry

⁴ According to Rayleigh criterion, related to a central wavelength of 525 nm

Objective-specific features										
	0.6x	2.5x	5x	10x	20x	50x	100x	111x	4x LWD	10x SLWD
Measurement noise $N_M^{1,2}$						< 0.6 nm				
Digital resolution						0.01 nm				
Surface topography repeatability ^{1,3}						< 0.2 nm				
Repeatability of RMS ⁴						< 0.05 nm				
Maximum deviation of a step height measurement						7.5 μm step: 0.3 μm ⁵ 75 μm step: 0.7 μm ⁵ 20000 μm step: 5.0 μm ⁶				
Step height measurement repeatability ⁷						7.5 μm step: 1.6 % 75 μm step: 0.2 % 20000 μm step: 0.003 %				
Flatness deviation z_{FLT}^1						< 5 nm				
Flatness measurement repeatability ¹						< 0.5 nm				

¹ Evaluation of the correlogram phase

² Based on DIN EN ISO 25178-700, 30 measurements at 17.2 $\mu\text{m}/\text{sec}$, on a parallelly aligned plane mirror ($R > 93\%$, $\lambda/10$). Postprocessing: levelling, 5 x 5 spike-removal, high pass filter $\lambda_c = \text{FoV width}/4$, no denoising

³ According to DIN EN ISO 25178-604:2013-12, 30 measurements at 17.2 $\mu\text{m}/\text{s}$ (10x objective) on a parallelly aligned plane mirror ($R > 93\%$, $\lambda/10$). Postprocessing: levelling, 3x3 median filter denoising, 5 x 5 spike-removal

⁴ Repeatability of the individual RMS values from the surface topograhly repeatabilty measurement

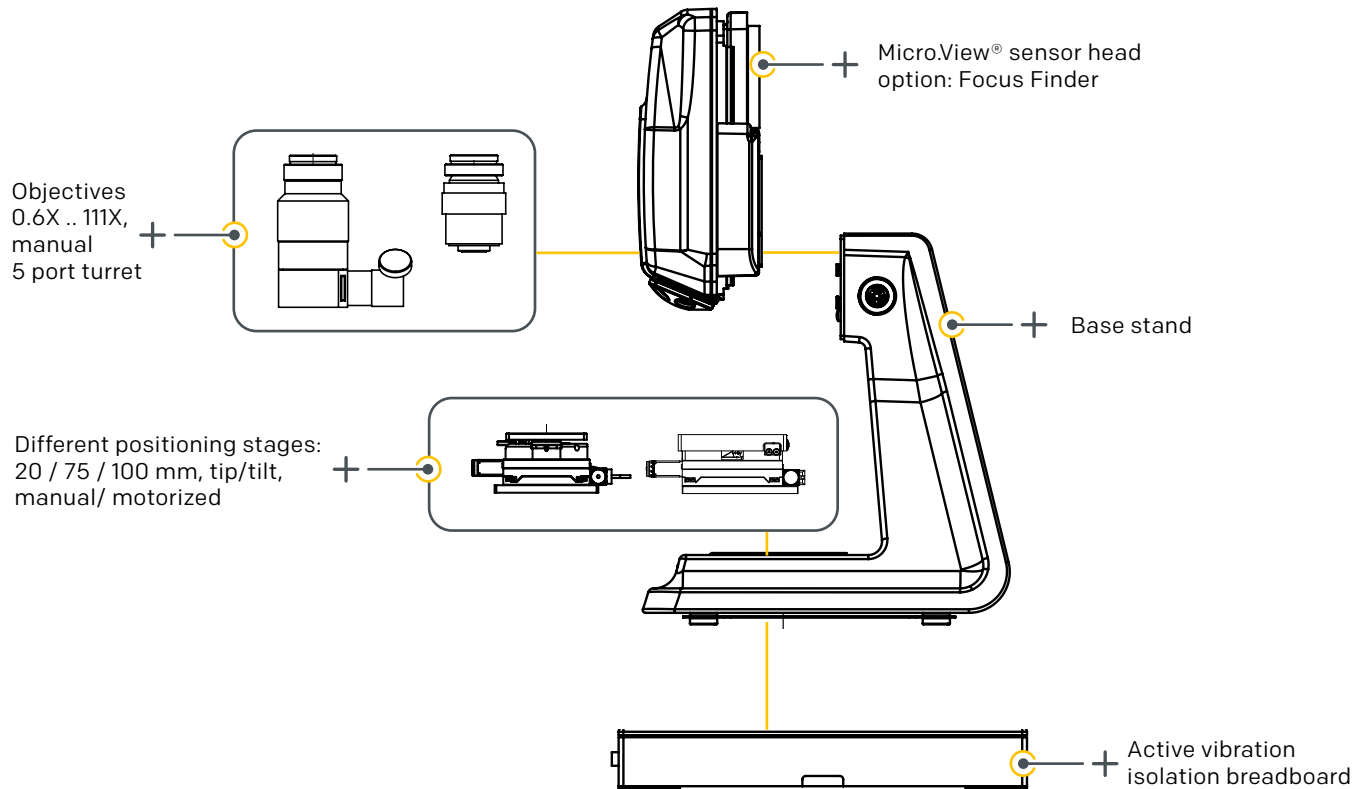
⁵ 15 measurements per step at 17.2 $\mu\text{m}/\text{s}$, on a calibrated depth setting standard, type KNT 4080/03 (ISO 5436-1), in various sections of the 100 mm nominal vertical measurement range

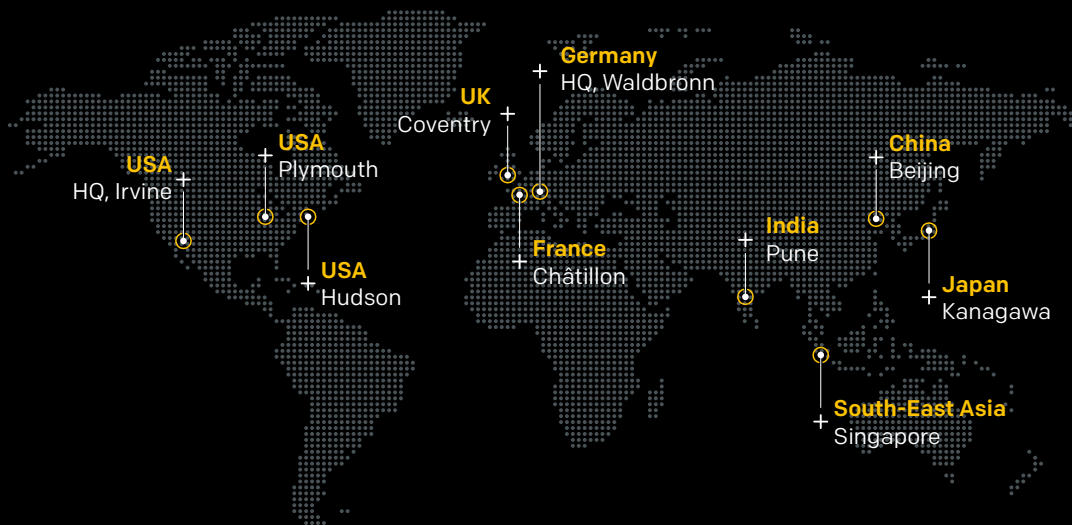
⁶ 15 measurements at 17.2 $\mu\text{m}/\text{s}$ (4x objective) on a calibrated gauge block of precision class K (contact bonded on an optical flat)

⁷ Standard deviation of the measured step height under repeatability conditions

Other features	
Optical setup	Microscope system; Light source: long-life LED
Data formats	Topography formats: SUR, ASCII, STL, X3P Export formats: qs-STAT, PDF, BMP, PNG, TIFF, GIF

Configuration of the optical profiler //





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52062/2026/02 - Technical specifications are subject to change without notice.