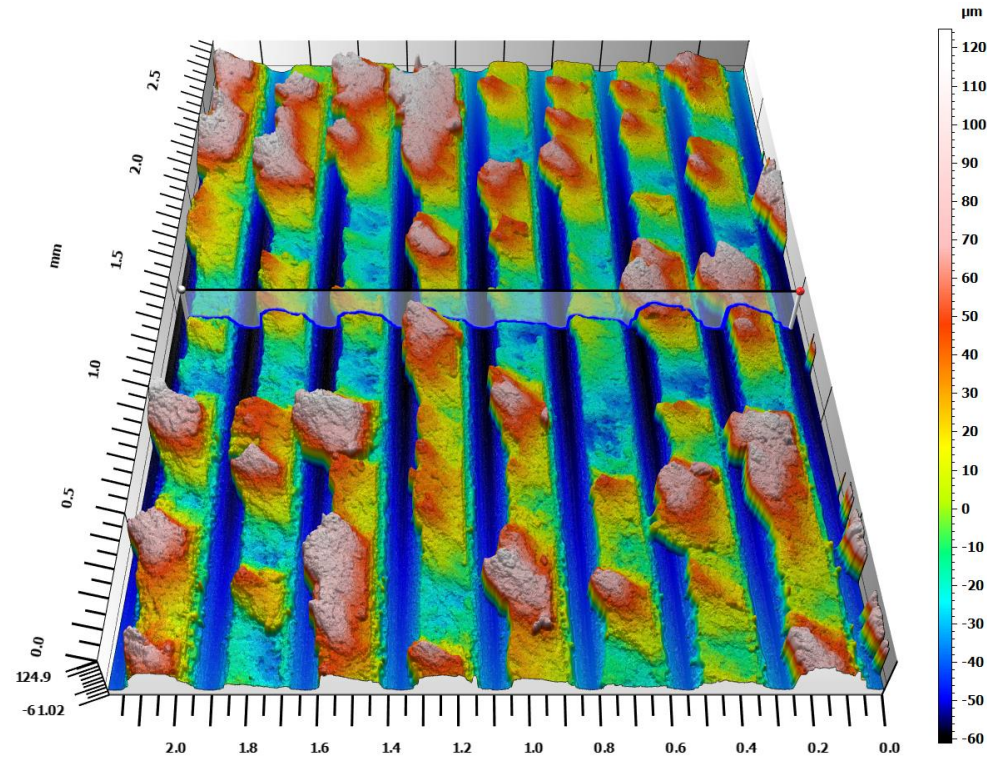
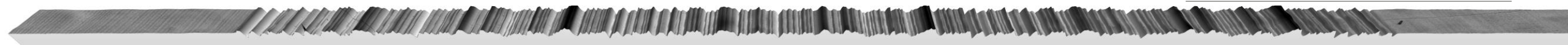




**3D sensor for shop floor installation  
with manually exchangeable objective**



**micro geometries  
roughness and micro structures  
extended scanning range up to 5 mm  
regarding the Z scanning axis**





## components

industrial 19" rack with 6 height units including housing

### PC

- Windows10
- measuring software smartVIS3D
- evaluation software MountainsMap®
- 3 height units

### scanning device controller

- precision positioning system (mechanical)
- fast scanning up to 400  $\mu\text{m/s}$
- scanning range in z – axis up to 5 mm
- 3 height units

### LED light controller

XY positioning system controller (optional)

	5 MP high resolution camera
measuring points	2456 x 2054
scanning speed full resolution	77 Hz
scanning speed ROI	up to 2 kHz

objective / magnification	2.5x	5x	10x	20x	50x	100x	115x*
working distance / mm	10.3	9.3	7.4	4.7	3.4	2	0.7
measuring field / mm <sup>2</sup>	6.8 x 5.7	3.4 x 2.8	1.7 x 1.4	0.85 x 0.71	0.34 x 0.28	0.17 x 0.14	0.15 x 0.12
point spacing / μm	2.8	1.4	0.69	0.35	0.14	0.07	0.06

	2.3 MP high speed camera
measuring points	1920 x 1200
scanning speed full resolution	169 Hz
scanning speed subsampling	533 Hz
scanning speed ROI	up to 3.2 kHz

objective / magnification	2.5x	5x	10x	20x	50x	100x	115x*
working distance / mm	10.3	9.3	7.4	4.7	3.4	2	0.7
measuring field / mm <sup>2</sup>	7.3 x 4.6	3.7 x 2.3	1.8 x 1.2	0.91 x 0.58	0.37 x 0.23	0.18 x 0.12	0.16 x 0.1
point spacing / μm	3.8	1.9	0.96	0.48	0.19	0.1	0.08

\*Olympus 100x WLI objective – the mentioned magnification is calculated in relation to the 100x Nikon objective

# stand and XY positioning table specification



stand	
max. / coarse positioning range (manual Z positioning)	70 mm
fine positioning range (manual Z positioning)	1.9 mm
Tilting angle (levelling device)	$\pm 3^\circ$

positioning tables					
positioning area	movement	load capacity	resolution	orthogonality	encoder
73 x 55 mm <sup>2</sup>	manual	1 kg	-	-	-
75 x 50 mm <sup>2</sup>	motorized	1 kg	0.01 $\mu\text{m}$	<10arcsec	optional
100 x 100 mm <sup>2</sup>	motorized	2 kg	0.01 $\mu\text{m}$	<10arcsec	optional
150 x 150 mm <sup>2</sup>	motorized	3 kg	0.01 $\mu\text{m}$	<10arcsec	optional
200 x 200 mm <sup>2</sup>	motorized	3 kg	0.01 $\mu\text{m}$	<10arcsec	optional
300 x 300 mm <sup>2</sup>	motorized	5 kg	0.01 $\mu\text{m}$	<5arcsec	optional

smartWLI extended range	
measurement technique	white-light interferometry
measurement software	smartVIS3D
evaluation software	MountainsMap® with optional GBS add-on modules
scanning device	mechanical precision drive
scan range	up to 5000 µm
scanning speed / full resolution	5.2 µm/s (5 MP camera) / 11.4 µm/s (2.3 MP camera)
max. scanning speed	approx. 400 µm/s
digitalization	up to 0.1 nm
topography reproducibility*	< 7 nm (5 MP camera) / < 5 nm (2.3 MP camera)
1-σ reproducibility 0.4 µm step height	< 10 nm
1-σ reproducibility 12 µm step height	< 20 nm
1-σ reproducibility 100 µm step height	< 30 nm
sensor weight	approx. 2 kg
relative humidity, non-condensing	up to 80%
operation temperature	10 °C to 35 °C
power supply	100 to 240 VAC, 50/60 Hz

\*Sq/√2 – profile difference of 2 scans, EPSI, single scan, without profile averaging, laboratory conditions, 1 million points after 3x3 denoising filter

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