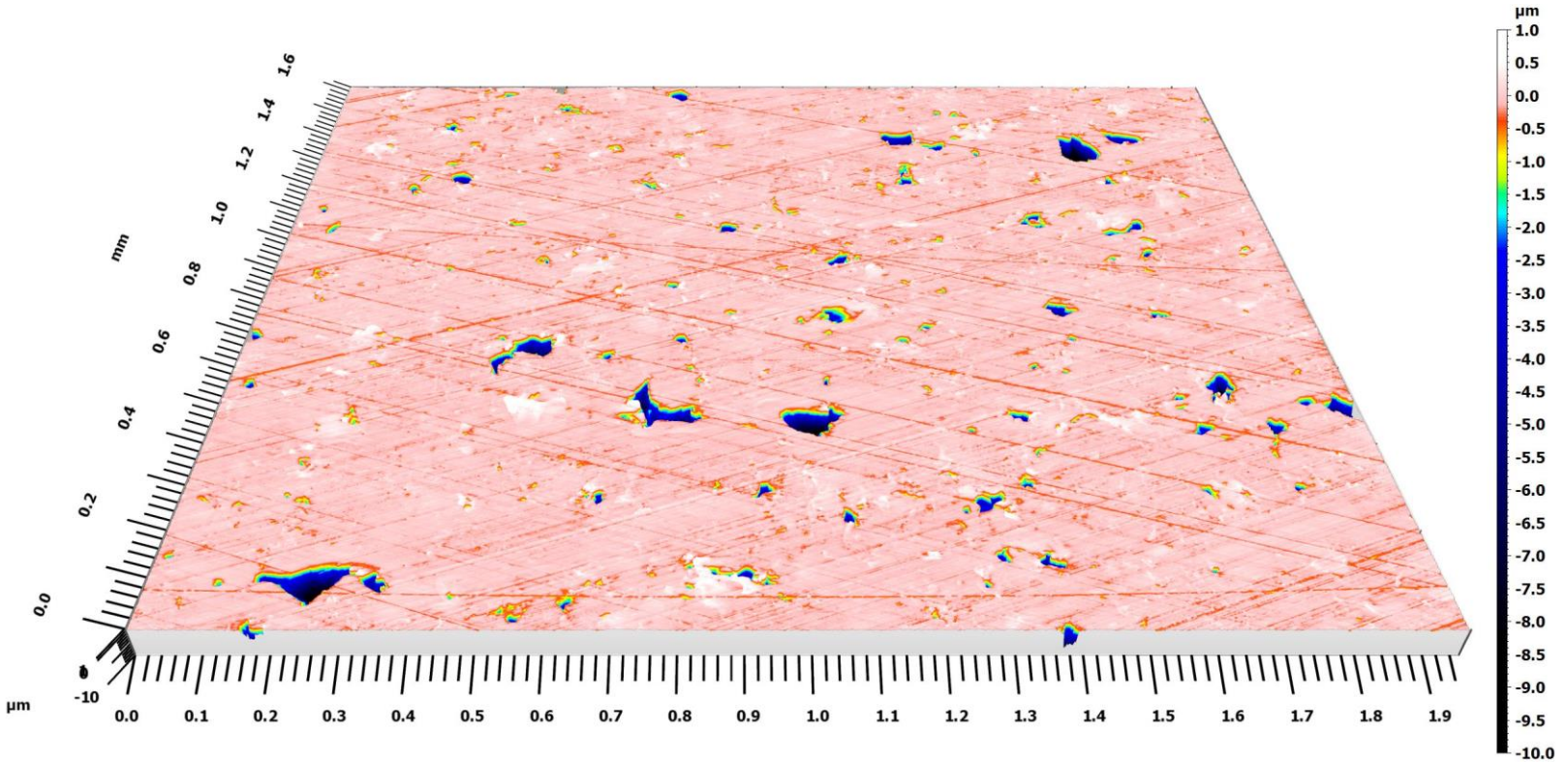
smartWLI CylinderInspector3D

now with higher resolution and high-performance camera to scan more details in shorter time



honing structures
pore ratio and statistical classification
marbling (protruding plateaus)

smartWLI

control unit

components
industrial 19” rack with 6 height units including housing
PC • Windows10 • measuring software smartVIS3D • evaluation software MountainsMap® • 3 height units
scanning device controller • Piezo positioning system (capacitive) • closed loop control for positioning • 3 height units
LED light controller
motorized insertion axis controller (optional)

general and camera specification

general specification	
cylinder diameter	70 ... 125 mm (standard configuration)
standard insertion axis	max. cylinder depth approx. 188 mm
extended insertion axis	max. cylinder depth approx. 270 mm
motorized insertion axis	max. cylinder depth approx. 200 mm / stitching

high resolution camera	
measuring points	2000 x 2000
scanning speed full resolution	88 Hz
scanning speed ROI	up to 2 kHz

objective specifications

variable configuration for multiple tasks:

- 5x objective for larger structures and pores
- 10x standard objective for multiple tasks
- 20x objective for more details measuring honing and small pores
- 50x objective for detailed inspection of cracks and marbling
- 100x objective for high resolution confirmation of results

objective magnification	5x	10x	20x	50x	100x
working distance	9.3	7.4	4.7	3.4	2
measuring field / mm²	2.8 x 2.8	1.4 x 1.4	0.7 x 0.7	0.28 x 0.28	0.14 x 0.14
point spacing / µm	1.4	0.7	0.35	0.14	0.07

technical specification

smartWLI CylinderInspector3D	
measurement technique	white-light interferometry
measurement software	smartVIS3D
evaluation software	MountainsMap® with optional GBS add-on modules
scanning device	Piezo positioning system
scan range	up to 200 µm
scanning speed / full resolution	5.9 µm/s
max. scanning speed	approx. 148 µm/s
digitalization	up to 0.01 pm
topography reproducibility*	< 1 nm
1-σ reproducibility 12 µm step height	< 5 nm
sensor weight	approx. 16 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