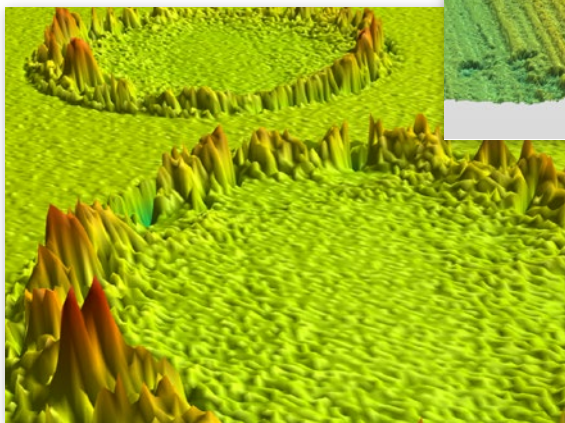
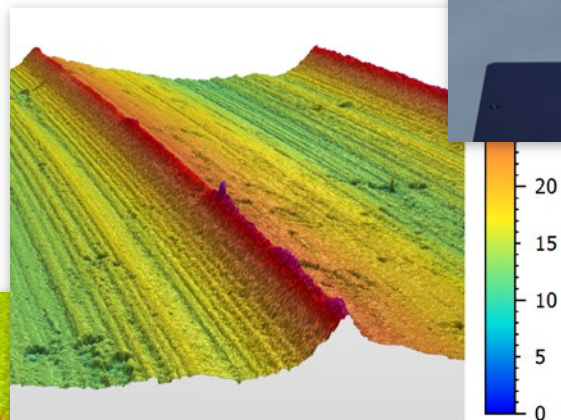


SPA 25

Measuring system for surface topography and roughness parameters

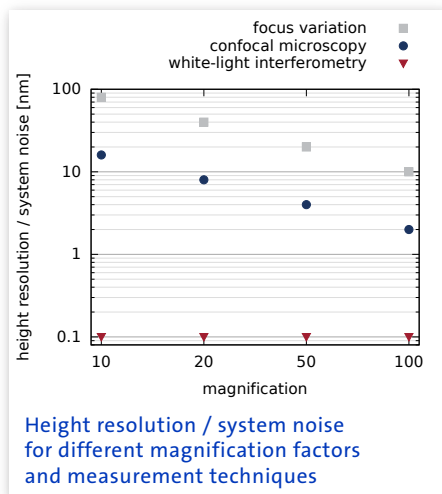


Surface Profile Analyzer SPA 25

The Surface Profile Analyzer SPA 25 can measure surface topography and roughness parameters with exceptional speed and resolution.

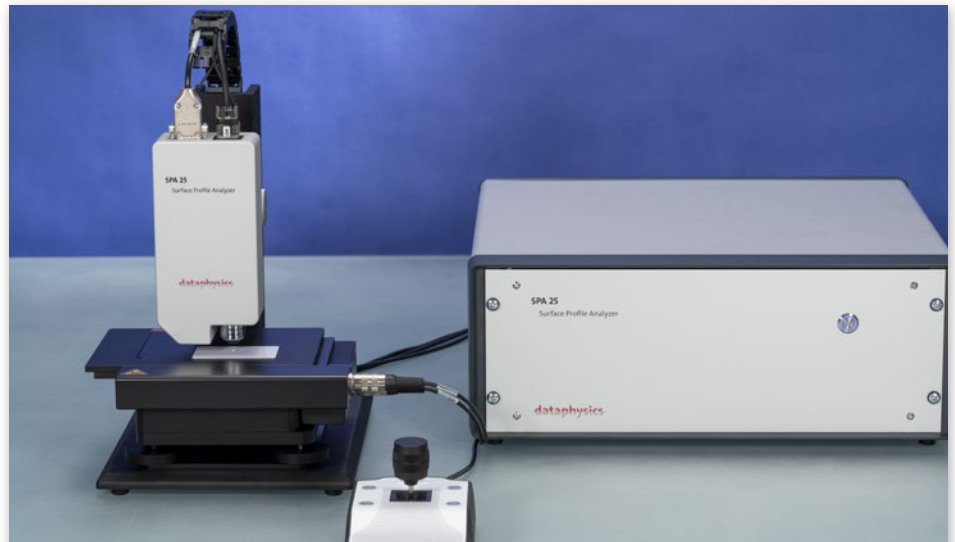
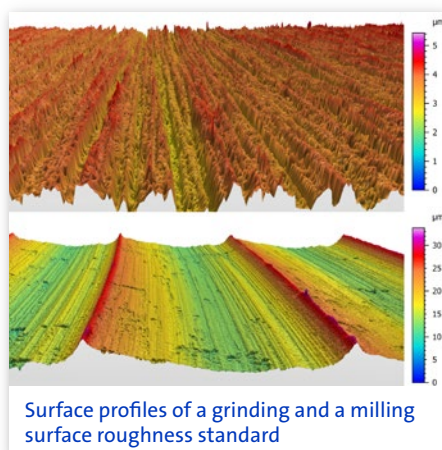
High resolution measuring technique

The SPA 25 utilises the white-light interferometry technique that features a height resolution of down to 0.1 nm even with small magnification factors. This gives the SPA 25 a significant advantage over rivaling systems that use other techniques like focus variation or confocal microscopy.



Automatic sample table

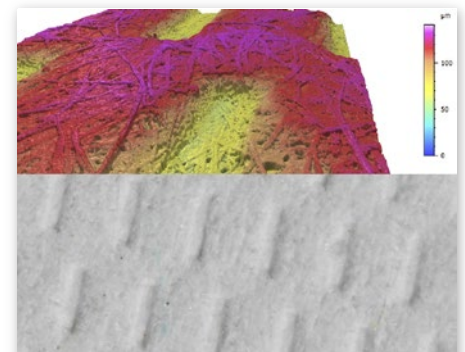
With the motorised sample table, the analysed surface can be precisely positioned and by automatically moving the sample after each measurement multiple images can be stitched together in order to visualise and analyse larger surface areas of up to 300 mm x 300 mm.



Measuring head with motorised sample table, joystick and control unit of the SPA 25

Industry-leading software

The SPA 25 utilises the industry leading MountainsMap® Imaging Topography software for analysing the surface profile. The software can calculate surface texture and profile roughness parameters according to various industry standards like ISO 25178, ISO 4287, ISO 13565, ISO 16610, etc.



Surface profile of an embossed pattern on a business card

Wide range of applications

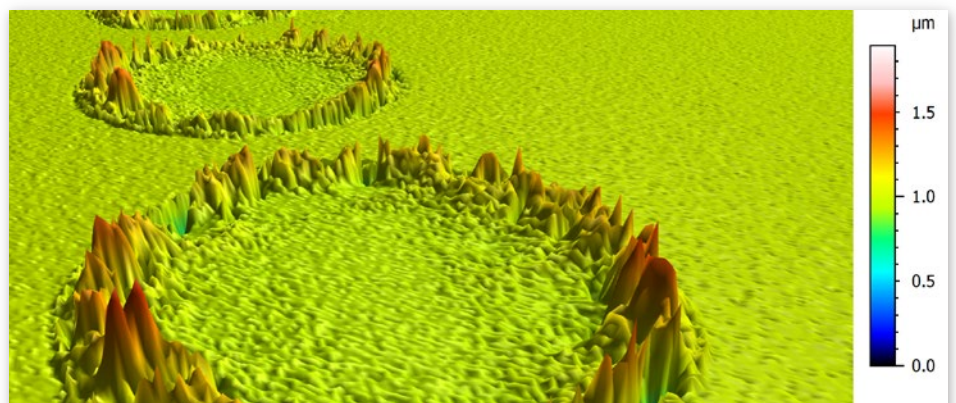
Due to the exceptional resolution, high speed and comprehensive analysis software the SPA 25 can be used for a wide variety of applications.

The SPA 25 can be used to create 3D maps of large surface areas and e.g. detect defects caused by material processing and treatment.

Using the SPA 25 in combination with an optical contact angle measuring and contour analysis system of the OCA series provides further insight into surface properties by e.g. determining

the surface corrected contact angle according to the Wenzel theory.

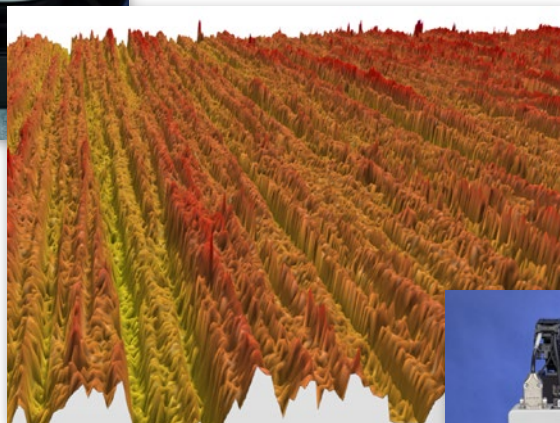
With its high resolution even the small particle deposits created by dosing individual picolitre sized ink droplets with a DataPhysics Instruments picolitre dosing system PDDS can be analysed.



Surface profile of deposited and dried silver ink picolitre droplets

Technical data

measurement technique	white-light interferometry					
scanner	precision piezoelectric drive with gauge control					
scan range (Z-direction)	up to 400 μm					
scan speed at full resolution	11.3 $\mu\text{m/s}$					
scanning modes	vertical scanning interferometry			extended phase shift interferometry		
height resolution (Z-direction)	1 nm			0.1 nm		
camera system	USB 3 high speed camera					
max. resolution	1920 x 1200 pixel with 170 frames/s					
max. frame rate	up to 3000 frames/s with restricted ROI					
objectives	Mirau interferometer microscope objectives					
magnification factor	2.5x	5x	10x	20x	50x	100x
measuring field (X [mm] x Y [mm])	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
working distance [mm]	10.3	9.3	7.4	4.7	3.4	2
point spacing [μm]	3.8	1.9	0.96	0.48	0.19	0.1
sample table	manual	automatic	automatic	automatic	automatic	automatic
positioning area (X [mm] x Y [mm])	73 x 55	75 x 50	100 x 100	150 x 150	200 x 200	300 x 300
positioning resolution	-	10 nm	10 nm	10 nm	10 nm	10 nm
load capacity	1 kg	1 kg	2 kg	3 kg	3 kg	5 kg
measuring head stand	manual adjustment of z-axis					
fast Z-positioning	70 mm					
fine Z-positioning	1.9 mm					
tilt adjustment	$\pm 3^\circ$					
control unit	industrial 19" rack; 3 height units					
integrated PC	Intel® Core™ I5, 16 GB RAM, 500 GB SSD, NVIDIA® graphics card, Microsoft® Windows™ 10 Pro					
hardware controllers	piezo controller, LED light controller, x-y-axis controller					
software	SPS 25 scanning software & MountainsMap® Imaging Topography evaluation software					
standardised procedures and parameters	according to ISO 25178, ISO 4287, ISO 13565, ISO 16610, etc.					
3D areal surface texture parameters (ISO 25178)	Sq, Sp, Sv, Sz, Sa, S10z					
profile roughness parameter (ISO 4287)	Rq, Rp, Rv, Rz, Ra					
Dimensions	measuring head & automatic sample table (75 x 50 size)				control unit	
(L [mm] x W [mm] x H [mm])	360 x 260 x 450				500 x 515 x 210	
Weight [kg]	15.5				20	
Power supply	230 VAC; 50 Hz; 150 W					



**For more information please contact us.
We will find a tailor-made solution to your
surface chemistry requirements and
will be pleased to provide a quotation,
obligation-free, for your instrument system.**

DataPhysics Instruments GmbH • Raiffeisenstraße 34 • 70794 Filderstadt, Germany
phone +49 (0)711 770556-0 • fax +49 (0)711 770556-99
sales@dataphysics-instruments.com • www.dataphysics-instruments.com

Your sales partner: