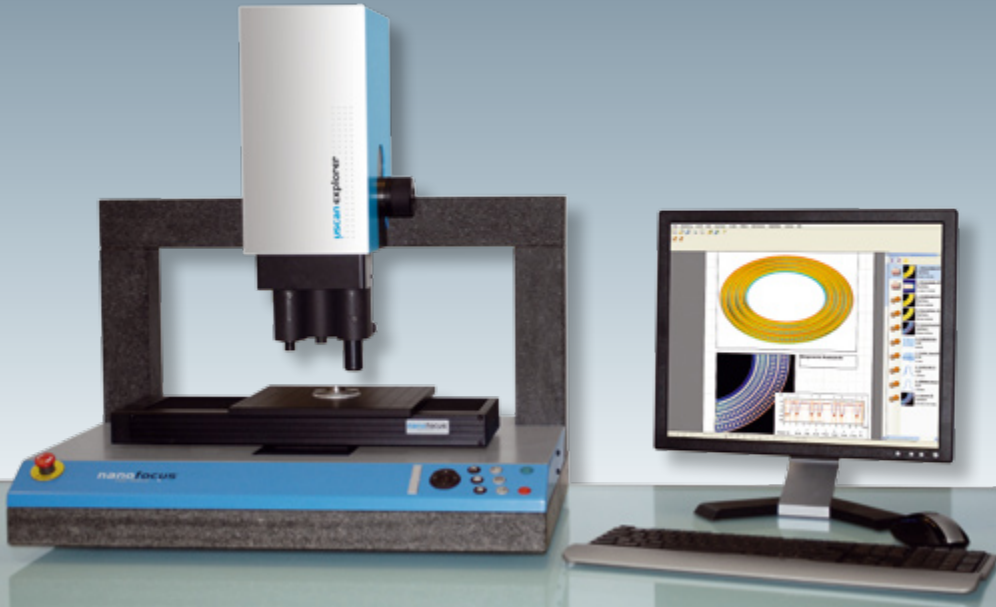


µscan explorer



The µscan explorer is a compact, automatable system used for quickly and accurately acquiring 3D surface textures by optical sensor scanning.

The compact µscan explorer 3D profilometer system enables fast, non-contact surface analysis in the micrometre and nanometre range. The µscan explorer, which is suitable for use in laboratory and production environments, features a high level of user-friendliness for performing a wide variety of measuring tasks, such as determining surface texture, roughness, microgeometry, and the thickness of transparent coatings. This versatility is achieved by using interchangeable high-resolution sensors that can be swapped with a minimum of effort.

A variety of chromatic confocal sensors with various measuring ranges are available for the µscan explorer. They can be used for measuring nearly every type of material, from diffuse to specular. The unit is sup-

plied with one sensor as standard, while a second sensor can be fitted on the system in parallel. A real-time camera provides fast orientation for selecting the measuring field and is just one of the integrated tools that simplify and streamline the measuring process.

The µscan explorer comes with an extensive software package. The standard µsoft drive software, which features an intuitive operator interface, controls the scanning profilometer and enables automated measuring and analysis. Measuring routines and entire measuring processes can easily be generated, saved and reused. The analysis software, µsoft analysis, presents the results and supports numerous types of 2D and 3D analysis.

- ▶ **Compact Design**
- ▶ **Flexible all-round Solution**
- ▶ **User friendly Concept**
- ▶ **Automated Measurement and Analysis**
- ▶ **Robust and reliable**

Applications:

- ▶ **IC-Packaging/SMT:** Fast automatic capture of warpage, lead and BGA coplanarity, laser marking, solder paste volume.
- ▶ **Thick film hybrids:** Automated measurement of film thickness on ceramic substrates, substrate warp and print stretch even on freshly printed paste.
- ▶ **Precise machining:** Measurement of form, waviness and roughness compliant with DIN EN ISO for precision metal parts, plastics and semiconductor materials.

NanoFocus AG

Specifications

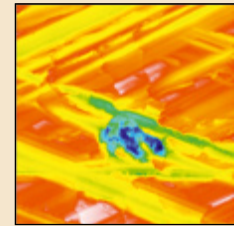
Gauge Heads

| | Vertical Resolution* (nm) | Apparent Lateral Resolution (µm) | Working Distance (mm) | Vertical Range (µm) | Slope Limit on reflective surfaces | Numerical Aperture |
|------------------------------|---|----------------------------------|-----------------------|---------------------|------------------------------------|--------------------|
| CLA-400 | 4 | 2 | 5 | 420 | ± 30° | 0.5 |
| CLA-1000 | 8 | 4 | 10 | 1000 | ± 30° | 0.5 |
| CLA-3000 | 15 | 10 | 38 | 3200 | ± 15° | 0.3 |
| Controller technology | max. Frequency 1000 Hz; LED light source; USB interface | | | | | |

* Noise Level

Stages

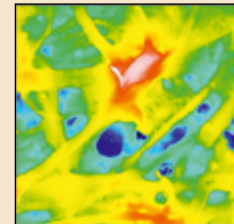
| | |
|----------------------------------|--------------------------------|
| Motorised Slides (X,Y) | |
| Travel-Range (x/y) | 200×150 mm |
| Technology | DC motors with encoders |
| Resolution | 0,5 µm |
| Straightness x | STRt ± 5 µm (1.5 µm corrected) |
| Straightness y | STRt ± 2,5 µm (1 µm corrected) |
| Maximum measurement speed | 30 mm/s |
| Max. weight of the sample | 15 kg |
| Manual Slide (Z) | 100 mm Travel Range (useable) |



Metal surface

Offset Camera

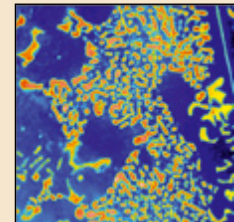
| | |
|-------------------------|--|
| Fieldsize (x,y) | 40×30 mm to 132×99 mm, depending on the z-position of the camera |
| Pixel | 1280×1024 |
| Working distance | approx. 50 mm |



Paper surface

Software

| | |
|---|---|
| µsoft drive | Software to control the measurement system with automation tools |
| µsoft analysis Standard/XT/Premium | Software to analyse 3D measurement data, layout function, templates for series measurement and analysis |



Structural conditions

General

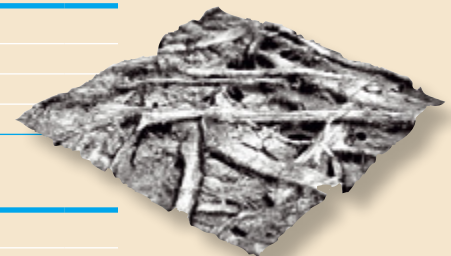
| | |
|---------------------|---|
| PC | DELL with 17" flat panel display, keyboard and mouse, operation system Windows XP; on-site worldwide warranty |
| Interfaces | 2× Front-USB, 6× USB, 1× LAN |
| File formats | NMS, OMS, ASCII, SDF, TIF, BMP, MNT, SUR |

Electronics

| | |
|---------------------------|------------------------------------|
| Voltage | 100 V to 240 V (automatic setting) |
| Frequency | 50 Hz to 60 Hz |
| Power | max. 90 Watt |
| Dimensions, weight | 340×240×185 mm (L×W×H), 7 kg |

Granite measuring stand

| | |
|---------------------------|--|
| Dimensions, weight | 620×450×665 mm (L×W×H), 95 kg |
| Vibration | Extra prevention for most applications not necessary |
| Max. sample height | 130 mm |



3D structure of a paper surface

Are you interested in other NanoFocus-Technologies?
Please call us +49 (0) 208-62 000-0 or write an email to sales@nanofocus.de

NanoFocus AG

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