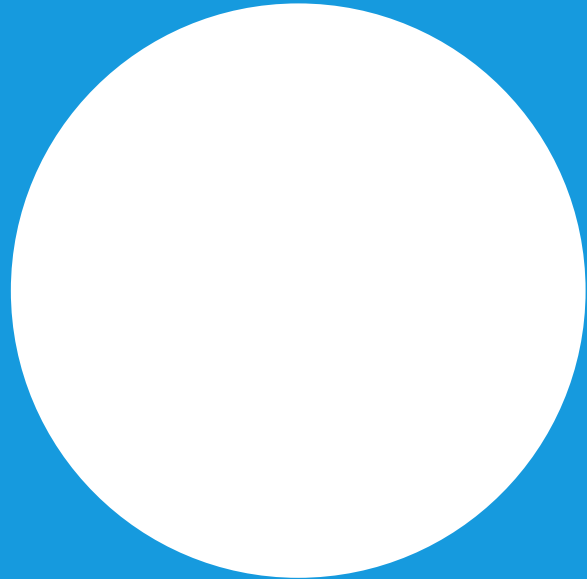


fastmicro

cleanliness control

Sampler product documentation

© 2021 Fastmicro Company confidential

fastmicro

Supply of additional samplers:

Supply of the samplers is explicitly excluded. Samplers are manufactured and can be purchased at our partner.

The sampler must be sampled on the surface that needs to be measured. The sampler is designed to take away >90% of the particles >0.5 µm from the surface where it was sampled.

© 2021 Fastmicro Company confidential

fastmicro

Card sampler benefits

1. Sampling in seconds with the Sampler
2. Accurate measurements on the Fastmicro Sample Scanner: quantity, position and size >0,5 µm
3. Easy to use
4. Consistent quantitative measurements time after time
5. Sampling at rough surfaces (Ra 0,5 µm), curved surfaces and cavities
6. Clean transport box enables sample collection anywhere at any time

Intended use with Fastmicro Sample Scanner

1. Measurement on metal, silicon, glass, and plastic surfaces
2. Measurement area ø16mm
3. Particles from 0,5 µm
4. Output format: excel, KLARF, optionally pdf and XML
5. Measurement within minutes
6. < 10% variation in the particle count
7. Ease of use
8. Further analysis with e.g., SEM/EDX possible

© 2021 Fastmicro Company confidential

fastmicro

Cleanliness & performance

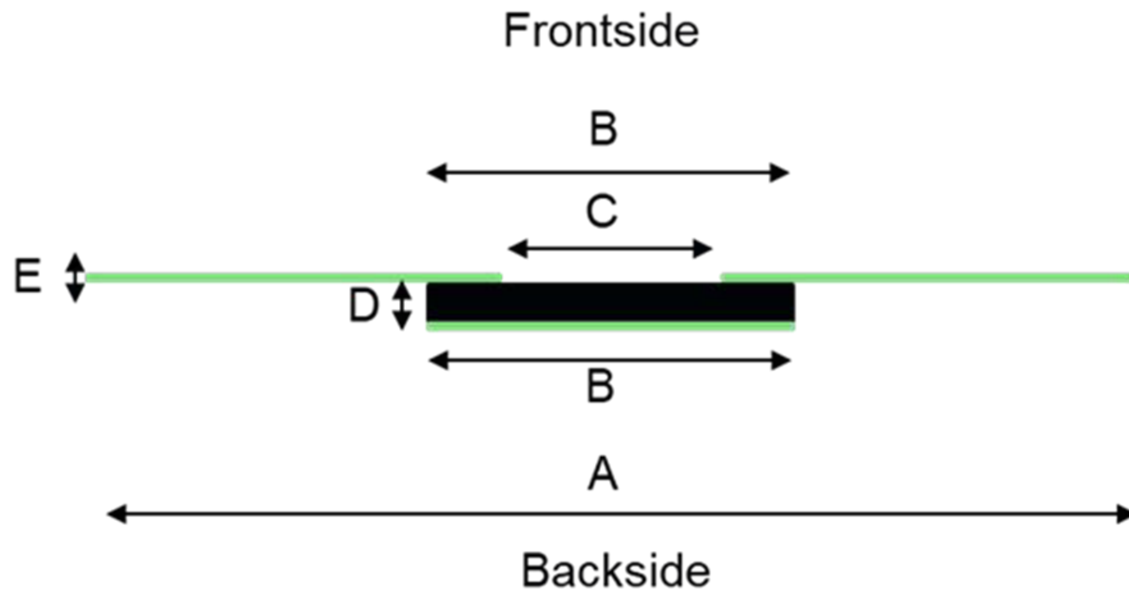
Specification	Value	Validation method
Lower Detection Limit when measured on a Fastmicro Sample Scanner	0,5 µm PSL-equivalent	Repeated measurements with PSL-prepared samples
Initial cleanliness	Better than SCP class 5 for particles with diameter ≥0,5 µm	Repeated initial measurements of newly supplied PMCs
Particle Collection Efficiency	>90%	Particle detection measurement on substrates, before and after sampling
Particle cross contamination	Sampling will not degrade classification of surface with: - SCP class 6 (2.00E6 particles/m^2) @ 0.5 µm to SCP class 6.1 (2.52E6 particles/m^2) or higher @ 0.5 µm - SCP-class 4 (1.00E3 particles/m^2) @ 10 µm to SCP class 4.1 (1.26E3 particles/m^2) or higher @ 10 µm	Particle detection measurement on substrates, before and after sampling
Molecular cross contamination	Sampling will not result in stains on surface. Sampling will not result in higher outgassing of H_2O, TOC_v, TOC_{nv} or HIO-elements.	UV-light inspection, RGA and XPS measurements of sampled substrates.
Follow up analysis possible	Enables follow up analysis by optical microscopy, SEM-EDX and FT-IR.	Tested with SEM, microscopes and FT-IR

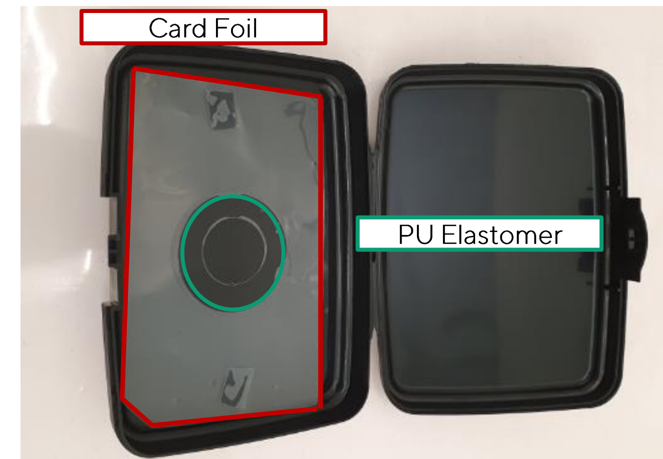
[1] As defined in ISO 14644-9:2012
[2] Total Organic Carbon; v: volatile, nv: non-volatile
[3] Hydrogen Induced Outgassing

© 2021 Fastmicro Company confidential

fastmicro

Particle Measurement Cards (PMC's)





A = 85 mm
B = 30 mm
C = 17 mm
D = 2,5 mm
E = 0,08 mm

© 2021 Fastmicro Company confidential