

# fastmicro

## Particle Fallout Scanner



### Consistent measurements in process

- 1 **Fast:** continuous monitoring in seconds
- 2 **Quantified:** fit for qualification and monitoring in both production and an R&D environment
- 3 **Easy to operate:** operator independent
- 4 **Accurate:** high-resolution measurement (quantity, timestamp, position, size)
- 5 **Consistent:** objective measurements, time after time
- 6 **High throughput:** in-situ processing

#### Particle Fallout Scanner for PDRL measurements

The Fastmicro Particle Fallout Scanner (PFS) has a compact, industrialized design and monitors particle deposition rates (PDRL) according to ISO 14644-17. The scanner enables process quality engineers to measure actual particle deposition in real-time at critical areas within an ambient cleanroom environment.

#### Continuous monitoring where and when it matters

Particle contamination control and cleanliness validation require continuous monitoring at critical surfaces instead of airborne particle measurements only. Particles do not always remain airborne; they can deposit on critical surfaces, impacting technical cleanliness and product quality.

The Particle Fallout Scanner offers continuous particle fallout monitoring with short  $\geq 10$  second intervals with a large field of view on the surface area of a 2-inch industry standard witness wafer. The particle deposition rate is measured accurately from 0.5  $\mu\text{m}$  and up PSL equivalent particle size (NIST certified).

The operator friendly monitoring software helps process engineers to track particle contamination in-situ and address cleanliness process control challenges. In combination with standard 2-inch Si wafers, the solution enables continuous measurement on the system and batch-wise measurement of particle traps distributed across the cleanroom over a defined period.

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**About Us** - At Fastmicro we help our customers to overcome today's cleanliness challenges in microtechnology. We believe you can accomplish breakthroughs in cleanliness control with fast, accurate and quantitative surface particle measurements. We enable process quality engineers to make reliable decisions on where and how to improve their cleanliness processes and deliver consistent quality products, ultimately achieving high equipment performance for their end users.

specifications

# Ambient Particle Fallout Scanner

Fast	<ul style="list-style-type: none"><li>• Particle deposition monitoring with a minimum time interval: 10 seconds</li></ul>
Easy to operate	<ul style="list-style-type: none"><li>• Fit for use by operators in manufacturing and R&amp;D environments</li><li>• Easy selection of recipe, multi recipes possible</li></ul>
Field of View	<ul style="list-style-type: none"><li>• Ø 44 mm on a 2-inch wafer</li></ul>
Lower Detection Limit	<ul style="list-style-type: none"><li>• 0.5 µm PSL equivalent particles (NIST certified)</li></ul>
Sizing accuracy	<ul style="list-style-type: none"><li>• Within 20% for PSL equivalent particles (NIST certified)</li></ul>
Remeasurability	<ul style="list-style-type: none"><li>• Non-destructive measurement</li><li>• No-added contamination caused by measurement</li></ul>
Data output and visualization	<ul style="list-style-type: none"><li>• Analyses: quantity, position and size of particles</li><li>• Annotated image with particle detection overlay</li><li>• Output: export function including KLARF and .csv files</li><li>• Data exchange via USB or via an ethernet connection</li><li>• Remote access feature included</li></ul> <p>Optional:</p> <ul style="list-style-type: none"><li>• Qualification report in UI and PDF, according to ISO 14644-17</li><li>• Warning by software when measurement output exceeds defined PDRL specs</li></ul>
Operating conditions	<ul style="list-style-type: none"><li>• Use in clean environments, i.e. cleanrooms with ISO 7 (ISO 14644-1), class 10 000 (FED STD 209E) or cleaner</li><li>• Max. cable length between Scanner and eBox: 2 m</li></ul>
Size and weight	<ul style="list-style-type: none"><li>• Scanner: size (LxWxH) 300 x 100 x 200 mm (11.8 x 3.9 x 7.9 inch), net weight 4 KG (8.8 lbs)</li><li>• eBox: size (LxWxH) 206 x 93 x 44 mm (8.11 x 3.66 x 1.73 inch), net weight 1.5 KG (3.3 lbs)</li></ul>
Model	<ul style="list-style-type: none"><li>• FM-PS-PFS-V02</li><li>• CE certified</li><li>• Language User Manual &amp; Software: English</li><li>• Included: eBox, USB-cable, powercord</li><li>• Packaging: double cleanroom packed in plastic flight case with foam</li></ul>

