KANOMAX FMT
A Kanomax Company

SCANNING THRESHOLD PARTICLE COUNTER 3 PLUS (STPC3+)

Model 9010-03-Plus

Reliable detection of nanoscale contaminants that lead to wafer defects

Highlights:

- Continuous, real-time monitoring suited for applications like excursion detection
- Measure below optical particle counters (OPC) size detection limits
- Compatible with critical process chemicals including organics, bases, acids, and oxidizers*
- Detect both particles and particle precursors
- Adaptable for grab samples

STPC3 Product Line

	STPC3		STPC3 DI		STPC3 PLUS	
Size Channels (nm)	3, 9, 15		3, 9, 15		3, 9, 15	
CPC options	SCPC-W, SCPC-B		SCPC-W, SCPC-B		SCPC-W, SCPC-B	
Pressure chamber control	Yes		Yes		Yes	
Online sample dilution	Internal PEEK dilution module		Internal PEEK dilution module		Internal PTFE dilution module Dual injection ports	
Sample shutoff	External Manual Valve		External Manual Valve		Internal automated Solenoid Valve	
Direct sample injection	No		Manual internal crossover valve		Optional automated internal solenoid selection valves	
Hi/Lo Dilution gas flow settings	Not Enabled		Internal Manual Valve		Internal Automated Valve	
Applications*	SCPC-W	SCPC-B	SCPC-W	SCPC-B	SCPC-W	SCPC-B
	UPW H_2O_2 NH_4OH	UPW IPA	UPW H_2O_2 NH_4OH	UPW IPA	UPW H_2O_2 NH_4OH HCl H_2SO_4	UPW IPA HCl H_2SO_4 PGME/A
Safety compliance	None		None		CE (requires ATEX Zone 2 rated cart)	
Compatible Accessories	Standard Pressure Vessel Sample Pressure Conditioner		Standard Pressure Vessel Sample Pressure Conditioner		Chem Resistant Pressure Vessel Sample Pressure Conditioner Aerosol Sample Heater ATEX Zone 2 cart	
Recommended Accessories	IV calibration kit		IV calibration kit		IV calibration kit Additional electronic balance	

Relevant SEMI Standards

C79: Guide to Evaluate the Efficacy of Sub-15 nm Filters Used in Ultrapure Water (UPW) Distribution Systems

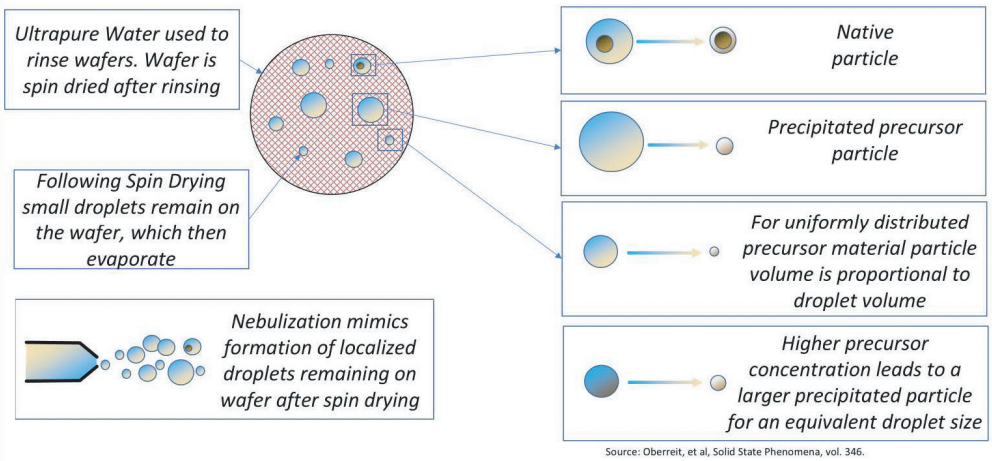
C93: Guide for Determining the Quality of Ion Exchange Resin Used in Polish Applications of Ultrapure Water System

F121: Guide for Evaluating Metrology for Particle Precursors in Ultrapure Water

Patent Protected

www.kanomaxfmt.com/legal-patents

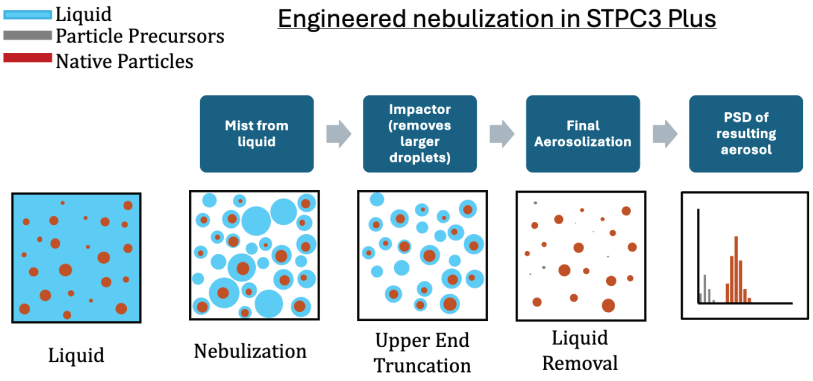
STPC3 Plus measurements mimic defect formation from liquid contaminants



Source: Oberreit, et al, Solid State Phenomena, vol. 346.

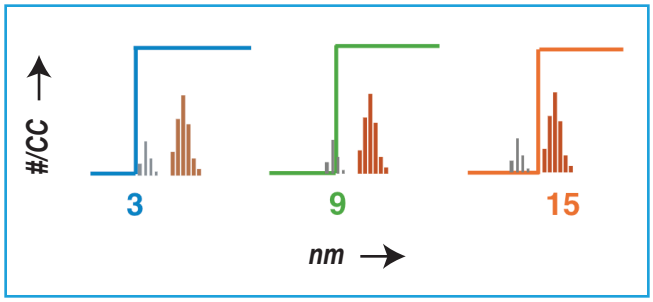
*Contact factory for further details

Operating Principle

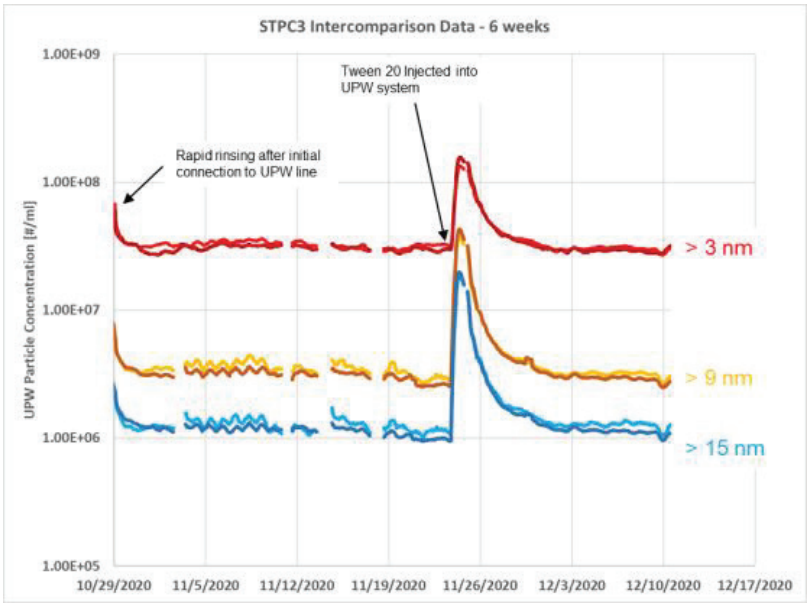


The STPC3 Plus employs unique nebulization technology to extract contaminants from the liquid, while minimizing artifacts that break correlation to on-wafer measurements.

Particle counting above size thresholds



STPC3 Side-by-Side Matching Performance



Specifications

Measurement range: 1E3 to 1E10 particles/mL
Threshold sizes: 3, 9, 15 nm
Number of size channels: 1-3 (user configurable)
Dead time between channel adjustment: 5 minutes
Total flow rate: 50-280 mL/min
Response time to concentration change: <30 seconds
Inlet water pressure (online): 200-620 kPa (30-90 psig)
Compressed air/nitrogen flow rate/pressure: 2.5-7.0 std L/min CDA or Nitrogen, 340-410 kPa (50-60 psi) ANSI IS08573-1:2010 Class 2 for compressed air
Wetter surface materials: proprietary, compatible materials
Detector working fluid: Reagent-grade (or better) n-Butyl alcohol/water
Working fluid consumption rate: Under 150 mL/day (bottle lasts for one week when cycling all three channels)
Ambient temperature range: 15-35°C (59-95°F)
Ambient relative humidity range: 0-85%
Maximum water temperature: 50°C (122°F)
Dimensions (W × D × H): 42 × 43 × 27 (43 with bottle) cms, 16.7 × 16.8 × 10.5 (16.8 with bottle) inches
Weight: 16.1 Kg (35.5 lbs)
Power (Nebulizer): Universal 100-240 VAC, 50/60 Hz, 90 W max
Power (CPC): Universal 100-240 VAC, 50/60 Hz, 210 W max
Communication Interfaces: Ethernet, Wi-Fi, USB, Analog 4 – 20 mA
Internal storage: Micro SD
Ultrapure water inlet: ¼ inch PFA Flaretek®
Waste outlet: ¼ inch SS Swagelok®
Compressed air inlet: ¼ inch SS Swagelok®
Detector vacuum: ¼ inch SS Swagelok® Port
Display: 7 inch TFT Color, touch panel

Specifications subject to change without notice.

Kanomax FMT and the Kanomax Group have unique liquid contamination expertise and can deliver solutions to your contaminant metrology challenges. Connect with us today!

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