



SILVERSET® CHEMICAL FILTERS

Advanced scanner optics and resist protection

Overview

The SilverSet® chemical air filter system offers advanced scanner lens protection for 248 nm and 193 nm dry and immersion scanners. SilverSet contains a unique combination of carbon and polymeric chemical media that targets and removes molecular acids (such as HCl, H₂SO₄ and HNO₃), acid forming species (such as SO₂), molecular bases (such as NH₃, NMP and amines) and condensable organic compounds.

- Asymmetrical filter arrangement with activated carbon in inlet filter prevents formation of trimethylsilanol (TMS) and acetic acid to protect scanner optics, and minimize photoresist process variation and material corrosion
- Two-year filter lifetime at >99% removal efficiency in typical cleanroom photo bay conditions
- Configurations to fit all Entegris filter housings for DUV scanners
- Can be made in other configurations to accommodate any scanner type



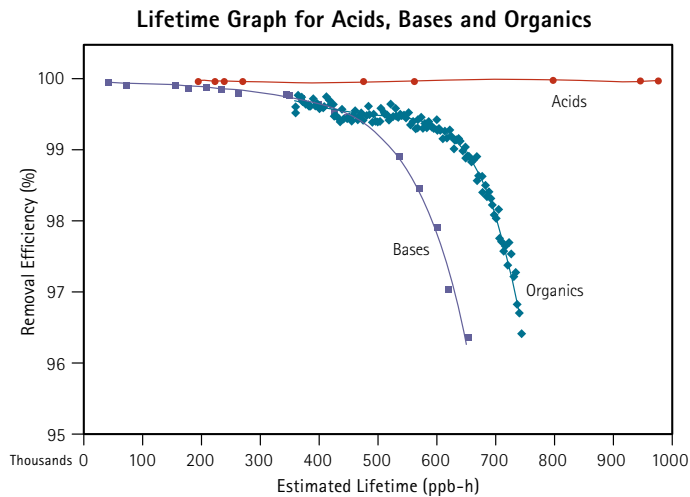
Features	Benefits
Asymmetric filter configuration	Prevents conversion of HMDSO to TMS, which causes scanner lens contamination
Activated carbon media in inlet filter(s)	Prevents conversion of PGMEA to acetic acid, which can cause photoresist processing variation and material corrosion
Hybrid filters containing highly-activated carbon plus advanced polymeric media	Removes a full range of contaminants including acids, bases and condensable organics
Optimized media blend	2-year filter lifetime at >99% removal efficiency for acids, bases and condensable organics in typical cleanroom photo bay conditions
Pleated filter design in rigid, deep frame	Optimizes active component surface area for maximum utilization and efficiency
Serial filter layout with interstack sampling ports	Provides multiple levels of protection Allows for filter performance monitoring and early break-through detection
Chemical filtration product performance is validated by Entegris Analytical Services	Provides assurance that all filter performance claims are verified with supporting data
<ul style="list-style-type: none"> – ISO 17025 accredited – 10+ years of AMC experience – Full-size wind tunnel testing at actual cleanroom contaminant concentrations 	

Performance Data

Contaminant	Filter Capture	Removal Efficiency	Typical Lifetime
Bases (e.g. NH ₃ , NMP, Amines)	Excellent	>99%	>2 years**
Acids and acid forming species (e.g., HCl, HNO ₂ , H ₂ SO ₄ , HNO ₃ , SO ₂)	Excellent	>99%	>2 years**
Condensable organics* (e.g., Toluene, HMDSO, PGMEA)	Excellent	>99%	>2 years**

*Boiling point >150°C and/or molecular weight >120

**Lifetimes are given for 99% removal efficiency (RE). Running to 90% RE yields much higher lifetimes. Based on typical cleanroom AMC levels: acids ≤1 ppb; bases ≤10 ppb and condensable organics ≤20 ppb



Test gases for lifetime estimate: SO₂–acids; NH₃–bases; toluene–organics

Ordering Information

Part No.	Cabinet	Description
ESI006190-01	E1250	Set of 3 chemical filters
ESI006154-01	E2600	Set of 12 chemical filters
ESI005996-01	E3000	Set of 12 chemical filters

For More Information

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