



SEMICONDUCTOR TOOL AMC FILTERS

Tool-top and EFEM filtration solutions that deliver superior protection against the full range of airborne molecular contaminants

Overview

As semiconductor process nodes have continued to shrink, the number of potential contaminants has increased, and the tolerable concentrations of those contaminants have decreased. It is necessary to protect both process equipment and wafers from the damaging effects of airborne molecular contamination (AMC).

Superior Protection

Entegris Tool AMC filters provide superior protection from common AMC in the fab, including molecular acids, bases and organics. Tool AMC filters utilize both standard filtration media and custom media blends to meet various AMC removal requirements. Entegris' vast semiconductor expertise ensures the right selection, application and validation of solutions.

See It. Control It.

In an effort to deliver targeted solutions that control airborne molecular contamination, Entegris employs the data-driven *See it. Control it.* methodology.

SEE IT.

Measure AMC types and concentrations and monitor over time. Entegris is the only filter supplier with OEM-approved and ISO-accredited analytical laboratories.



CONTROL IT.

Remove AMC with targeted solutions. Entegris provides a full range of application-specific AMC filters to remove contaminants of concern.

Common AMC Concerns

The following table summarizes common concerns with airborne molecular contamination.

Process	AMC	Effect
Wafer clean	Acids	Corrosion
	Bases	Salt formation/wafer defects
CMP	Acids	Corrosion
Dry etch	Acids	Corrosion
	Bases	Salt formation/wafer defects
	Organics	Etch rate non-uniformity
EPI	Organics	Wafer haze
Metrology	Acids	Salt formation/wafer defects
Reticle inspection	Bases	Salt formation/wafer defects
Wafer inspection	Organics	Optics haze
Deposition	Organics	Film defects
		Adhesion problems

Practical Solutions for Semiconductor Processes

Tool AMC filters can be configured to satisfy various installation requirements, including tool-top, fan filter unit, tool interface or in-tool housing in all equipment front-end modules (EFEMs) and process modules.

Tool-top filters provide AMC protection for all semiconductor process tools including wafer metrology, reticle inspection, ALD, EPI, diffusion, CVD, PVD, wet etch, wafer clean, dry etch and CMP.

Features and Benefits

Features	Benefits
Data driven <i>See it. Control it.</i> methodology	Provides tailored, application-specific filtration solutions that are optimized for cost of ownership
Product backed by Entegris OEM-certified, ISO 17025-accredited laboratories	Provides assurance that all performance claims are verified with supporting data and in-field analytical support
Optimized blend of high performance adsorbents	Provides targeted contaminant removal

Specifications

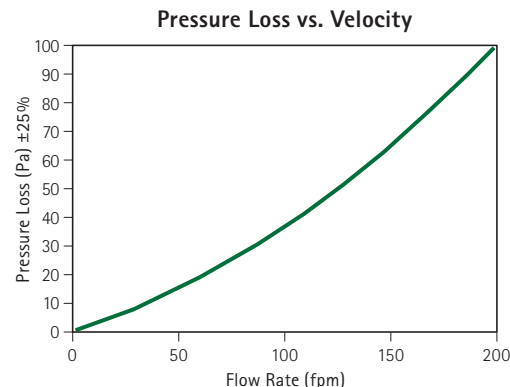
MATERIALS

Casing:	Clear anodized aluminum
Media:	Application-specific blends of high performance adsorbents
Cover screens:	Clear anodized aluminum and polyester scrim
Gasket:	Closed cell polyethylene

PHYSICAL PERFORMANCE

Parameter	At	Target
Air velocity distribution:	9 points 0.1 m downstream of filter @ 0.5 m/s face velocity	Uniform distribution, variation ~0
Temperature/humidity variation:	30–70% RH 18°C–35°C	<10% service life degradation
Dust generation:	Particles per m ³	ISO 5-compliant
Metal contaminants:	None detected	<1 ng/L air

Performance Data



For More Information

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit www.entegris.com and select the Customer Service link for the center nearest you.

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