



GUARDIAN™ ECD CARTRIDGE FILTERS

Hydrophilic, high-flow polysulfone membrane with excellent particle removal for wet etch & clean and copper plating applications



hydrophilic, high-flow membrane with excellent particle removal

Overview

The ideal solution for Etch-Clean and Deposition

The Guardian™ ECD filter cartridge is a dual-purpose filter that uses a hydrophilic, high-flow polysulfone membrane and is constructed of high-density polyethylene materials, which further ensure its inert properties. Recommended for dilute and low temperature acids and bases used in WEC processes, the Guardian is also highly effective in copper plating applications. The filter's proprietary noninteractive polysulfone membrane ensures that plating chemistry is not affected, enabling the highest purity and consistency in Cu- and Ni- plating processes.

NEW 30 nm Retention Rating – With High-Flow Retention Filtration

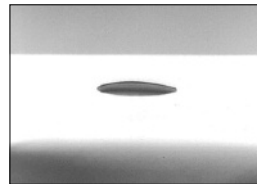
Guardian ECD uses a membrane design featuring asymmetric pores optimized in conjunction with the flow properties of the cartridge to provide the highest possible particle retention properties at the lowest pressure drop. This design ensures high bath turnover to deliver rapid particle removal which will minimize process start-up time. Because the cartridge contains a high-filter area, Guardian ECD has a longer service life while maintaining optimal bath filtration properties.

Defect Minimizing Design

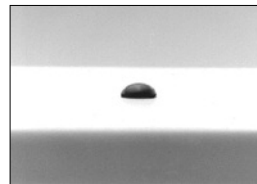
Particles represent only one source of defects in wafer processing. Microbubble generation can also negatively impact the bath, causing streaks and other types of defects. The Guardian ECD filter's highly hydrophilic surfaces reduce the potential for microbubble formation, thereby minimizing the potential for bubbles at start-up and throughout the wafer processing.

Lowest Cost of Ownership

Guardian ECD cartridges are compatible with most housings, are quick to install, and do not require any prewetting procedures to deliver quick start-ups. Replacement frequency is minimized by a large filter surface area and optimized flow design.



Aqueous chemistries wet hydrophilic PES/PSF membrane



PTFE membrane resists instantaneous wetting

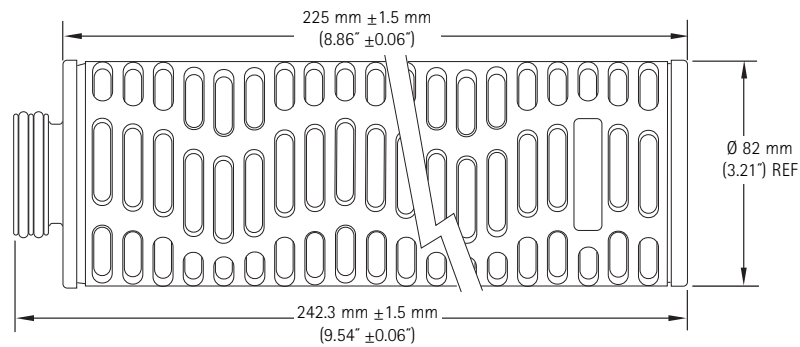
Features	Advantages	Benefits
NEW 30 nm retention rating with high-flow hydrophilic membrane technology	High-bath turnover rate and rapid particle removal Excellent retention of small particles and gels Reduction in microbubble-related defects	Increased yields
Hydrophilic Membrane	No prewetting or flushing is required	Reduced tool downtime
Inert to typical plating chemistry additives	Stable additives concentration	Enhanced metal plating process consistency

Specifications

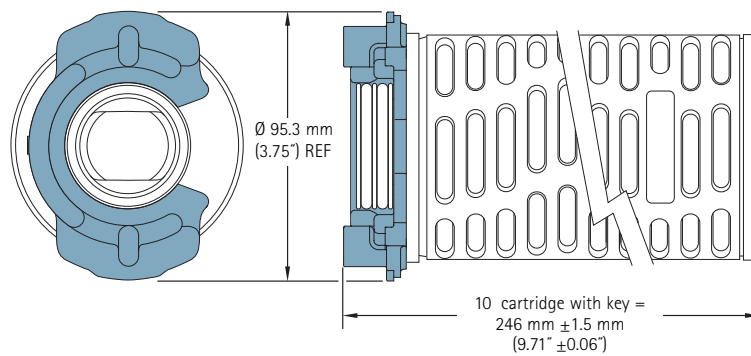
Materials:	Membrane	Hydrophilic polyethersulfone (PES) or polysulfone (PSF)
	Supports, core and sleeve	High-density polyethylene (HDPE)
	O-rings	Teflon® encapsulated Viton® (TEV) Code 0 (2-222)
Membrane area:	PEX 0.1 and 0.05 µm	1.0 m ² (10.8 ft ²)
	PEM 0.03 µm	1.2 m ² (13.3 ft ²)
Operating conditions:	Maximum forward/reverse differential pressure	0.34 MPa (3.4 bar; 49 PSID) @ 25°C (77°F)
	Maximum operating temperature	60°C (140°F)
Compatibility:	Electrochemical deposition processes, as well as various WEC (wet etch & clean) dilute low temperature chemicals*	

* Please consult with your Entegris applications specialist concerning your specific application.

Dimensional Information



End View Chemlock® Key on Cartridge



Ordering Information

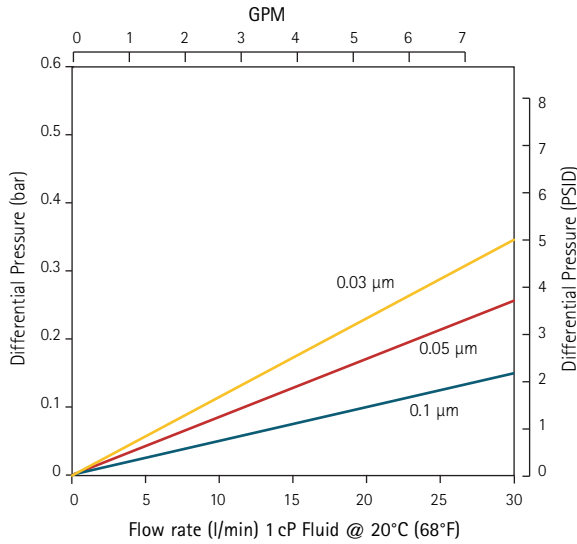
PART NUMBER

PEM 0.03 μm : ECD Y 01M01_
└─ **K = Chemlock Key (optional)**
 For use with Chemlock housing only

PEX 0.1 and 0.05 μm : ECD _ 01 P01_
└─ **K = Chemlock Key (optional)**
 For use with Chemlock housing only
└─ **Retention Rating (μm)**
 V = 0.1 μm
 Z = 0.05 μm

Performance Data

Guardian ECD 10" Cartridge



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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