

# Optimizer<sup>®</sup> AXC Photochemical Filters

*Ultraclean sub-1 nm filtration specially designed for point-of-use aqueous photochemical applications*

Optimizer<sup>®</sup> AXC filters provide leading-edge contamination control in advanced photolithography processes. Designed for use with TMAH and aqueous chemistries, the hydrophobic polyethylene (PE) membrane reduces on-wafer defects and improves yield. Incorporating enhanced extreme clean (AXC) technology, the definitive standard for sub-10 nm photochemical filtration, the Optimizer AXC filter ensures lower particles and reduces metal and organic leachables. The entire package results in faster flush-up performance and extended tool uptime.

To meet the requirements of advanced technology nodes, our most retentive UPE membranes are available with AXC cleanliness grade. The D01 form factor offers sub-1 nm class retention rating, which further lowers on-wafer defects.

Optimizer AXC filters use our Connectology<sup>®</sup> technology to quickly and securely seal with the Optimizer ST3 manifold without tools. Easy to install, this filter/manifold combination shortens filter changeouts to less than a minute. In addition, Optimizer AXC ships “water-wet” in ultrapure DI water, eliminating the need for prewetting prior to use. This packaging safeguards against chemical interactions and potential sources of contamination and prevents filter dewetting that can lead to sudden flow loss and unscheduled filter changeouts.

## APPLICATIONS

- Sub-10 nm device nodes for 300 mm tools
- Aqueous chemistries including TMAH, surfactant in water, special rinses



## FEATURES & BENEFITS

<b>Enhanced extreme clean AXC cleaning process</b>	<p>Optimized cleanliness grade ensures reduced metal and organic leachables and less particle shedding</p> <p>Enables fast system flush-up and extends tool uptime</p>
<b>Sub-1 nm retention rating</b>	<p>Sub-1 nm and 1 nm UPE membranes enable best-in-class, contamination control, which reduces on-wafer defects and improves yields</p>
<b>Prewet packaging using ultrapure DI water</b>	<p>Allows faster filter startup, which minimizes tool downtime and chemical usage</p> <p>Prevents dewetting that can lead to sudden flow loss and unscheduled filter changeouts</p>
<b>Filter/manifold combination enabled by Connectology technology</b>	<p>Enables a quick and secure connection to Optimizer ST3 manifold without tools, reducing filter changeouts to under a minute</p>
<b>Compatibility with aqueous chemistries</b>	<p>Provides a wide range of operating flexibility, including use with TMAH, surfactant in water and special rinse materials</p>

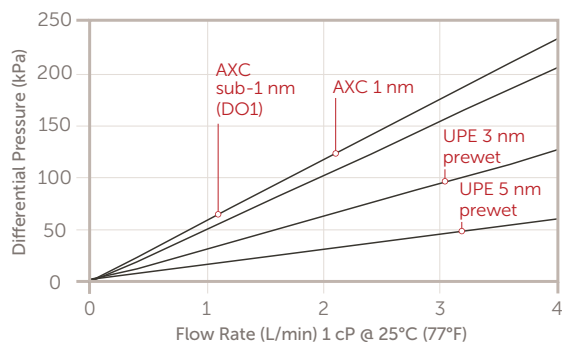
## SPECIFICATIONS

<b>Retention rating</b>	1 nm, sub-1 nm	
<b>Materials</b>	Membrane	UPE
	Housing, core, sleeve	PP
	Supports	HDPE
	O-ring	Kalrez®
<b>Filtration surface area</b>	6.39 m <sup>2</sup> (68.71 ft <sup>2</sup> )	
<b>Maximum operating conditions</b>	Maximum inlet pressure: 0.39 MPa (3.9 bar, 57 psi) @ 25°C (77°F)	
	Maximum forward/reverse differential pressure: 0.27 MPa (2.7 bar, 39 psi) @ 25°C (77°F)	
	Maximum operating temperature: 40°C (104°F)	
<b>Chemical compatibility</b>	TMAH and other aqueous photochemical solvents	
<b>Prewet water*</b>	Sterile DI water	
<b>Manifold</b>	Optimizer ST3	

\*1-year shelf life

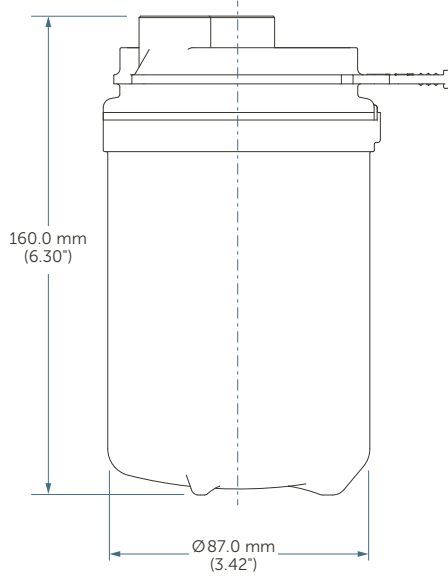
## PERFORMANCE DATA

### Optimizer AXC and UPE Prewet Filters

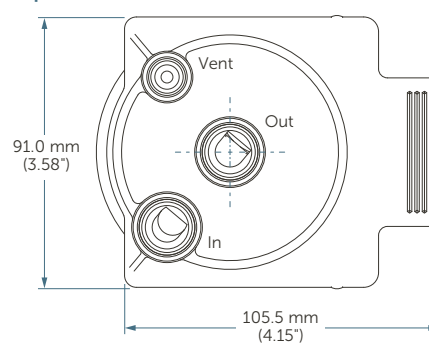


## DIMENSIONS

Side View



Top View



## ORDERING INFORMATION

Part number	Description	Retention rating
AWTEMLKX1UCPW	Extreme clean for aqueous chemicals	1 nm
AWD01MLKX1UCPW	Extreme clean for aqueous chemicals	Sub-1 nm

## FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit [entegris.com](http://entegris.com) and select the [Contact Us](#) link to find the customer service center nearest you.

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