



GUARDIAN™ DEV AND GUARDIAN PLUS HPM CARTRIDGE AND DISPOSABLE FILTERS

*High retention, hydrophilic UPE membrane filters
for KOH and TMAH based developer solutions and
other high pH chemical filtration applications*



excellent particle removal in high pH applications

Overview

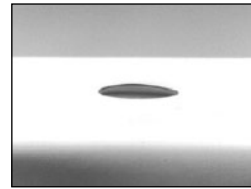
Guardian™ DEV and Guardian Plus HPM filters provide high retention efficiency in KOH and TMAH based developer solution and low temperature organic resist strippers (without peroxide). In addition the filter's large surface area provides high flow performance and extended lifetime.

Improved Equipment Efficiency, Reduced Maintenance, Fast Start-Up

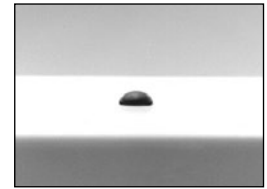
The Guardian DEV and Guardian Plus HPM filters arrive ready-to-use for maximum system uptime. The patented hydrophilic membrane (UPE) requires no prewetting and no flushing for operation in aqueous solutions. The membrane does not dewet in aqueous solutions. The cartridges deliver quick flush up time and excellent flow/retention characteristics.

Superior Cleanliness, High Flow

The large surface area of both filters provides high particle retention of small particles without sacrificing flow. The filters are rigorously flushed and cleaned during the manufacturing process to ensure an ultra-clean product that meets the demands of today's critical semiconductor processes.



Aqueous chemistries instantly wet hydrophilic UPE membrane.



PTFE membrane resists instantaneous wetting.

Features and Benefits

Features	Benefits
Patented hydrophilic UPE membrane	Superior wettability eliminates prewetting and flushing steps, saving time at changeout. Does not dewet in outgassing fluids. Increases equipment uptime.
Available in retention ratings of 0.05 µm and 0.1 µm	Multiple retention ratings cover a broad scope of process requirements. Delivers excellent small particle retention; ensures minimal particles on wafer.
Large membrane surface area	Enables high flow rates in chemical delivery systems, while maintaining excellent ultrafine particle retention. Provides longer life, more efficient filtration.
Polyethylene construction	Provides excellent chemical compatibility and long lifetime in a cost-effective device

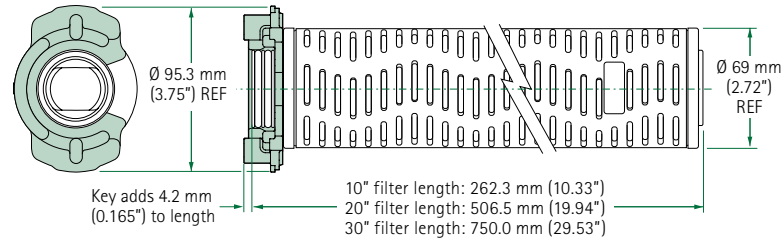
Specifications

		Guardian DEV	Guardian Plus HPM	Guardian DEV HPX Disposable
Materials:	Membrane	Patented hydrophilic ultra-high molecular weight polyethylene (UPE)		
	Supports, sleeve, core, end caps	High-density polyethylene (HDPE)		
	Code O double 2-222 o-ring	EP, E-FKM, Kalrez® 4079	E-FKM, FER	N/A
	Chem-Line™ II disposable outer shell	N/A	N/A	Polypropylene
Retention rating:	0.05, 0.1 µm			
Membrane surface area:		10": 0.85 m ²	10": 1.9 m ²	10": 1.1 m ²
		20": 1.7 m ²	20": 3.8 m ²	–
		30": 2.55 m ²	30": 5.7 m ²	–
Maximum operating conditions:	Maximum forward differential pressure	0.35 MPa (3.5 bar; 50 psid) @ 25°C (77°F)	0.24 MPa (2.4 bar; 35 psid) @ 25°C (77°F)	0.35 MPa (3.5 bar; 50 psid) @ 20°C (68°F)
	Maximum reverse differential pressure	0.25 MPa (2.5 bar; 35 psid) @ 25°C (77°F)	0.24 MPa (2.4 bar; 35 psid) @ 25°C (77°F)	0.25 MPa (2.5 bar; 35 psid) @ 20°C (68°F)
	Maximum inlet pressure	N/A	0.34 MPa (3.4 bar; 50 psi) @ 25°C (77°F)	0.69 MPa (6.9 bar; 100 psi) @ 20°C (68°F)
	Maximum operating temperature	60°C (140°F)		
Compatibility:	Recommended for use in ammonium hydroxide and TMAH and low-temperature organic resist strippers. Not recommended in chemistries with peroxide or aromatic hydrocarbons.			

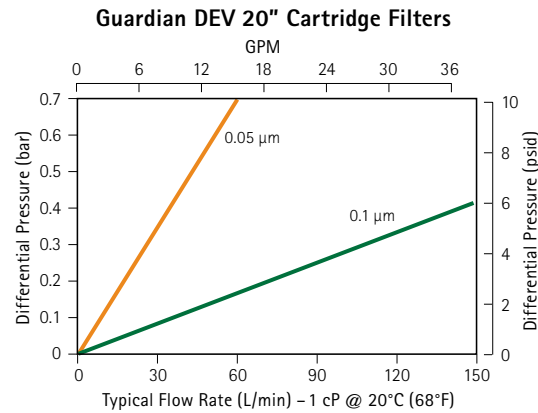
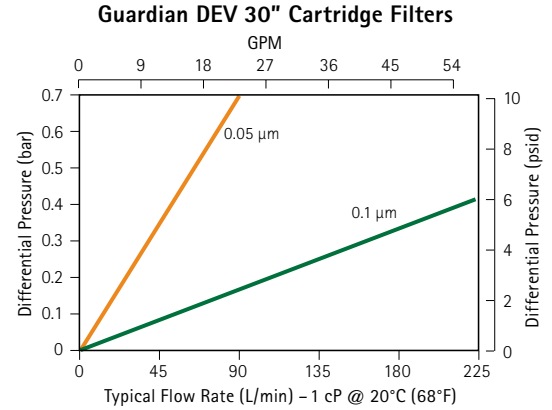
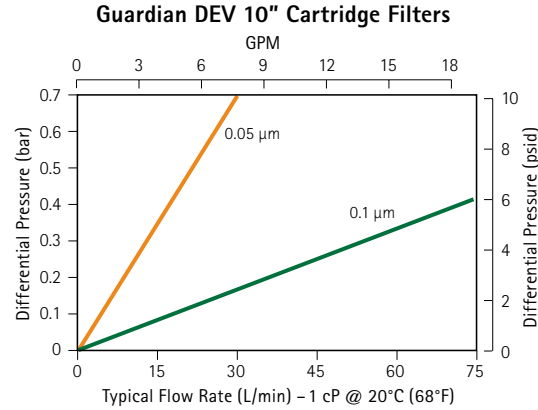
Guardian DEV Cartridge Filters

Dimensions

End View Chemlock® Key on Cartridge



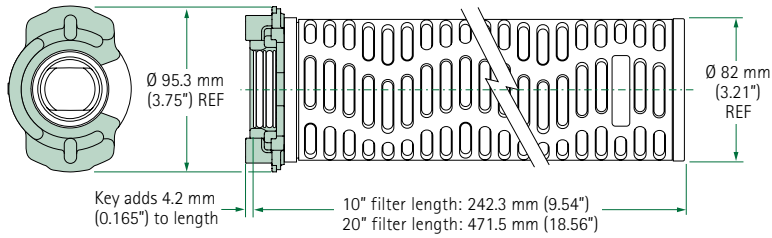
Performance Data



Guardian Plus HPM Cartridge Filters

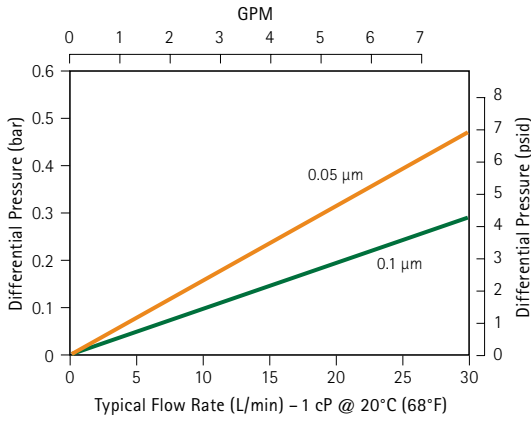
Dimensions

End View Chemlock Key on Cartridge

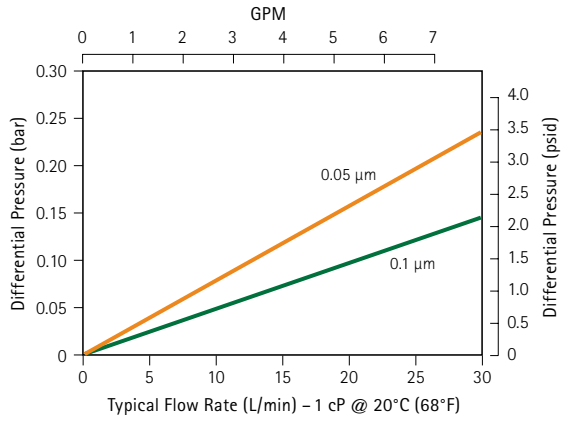


Performance Data

Guardian Plus HPM 10" Cartridge Filters



Guardian Plus HPM 20" Cartridge Filters

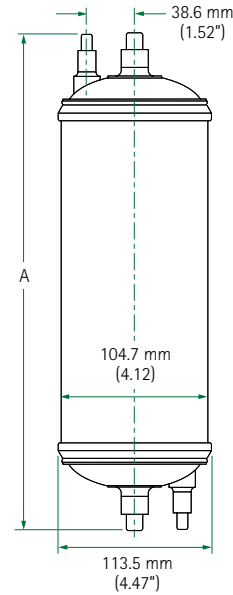


Guardian DEV Disposable Filters

Dimensions

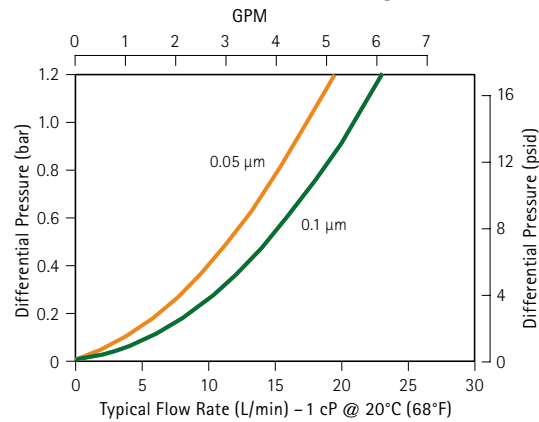
CHEM-LINE™ II DISPOSABLE FILTERS

Inlet/Outlet Size	Dim A
	10" Disposable Filter with Flaretek® Compatible Fittings
3/8"	349.8 mm ±1.3 mm (13.77" ±0.05")
1/2"	359.9 mm ±1.3 mm (14.17" ±0.05")
3/4"	359.9 mm ±1.3 mm (14.17" ±0.05")
1"	370.1 mm ±1.3 mm (14.57" ±0.05)

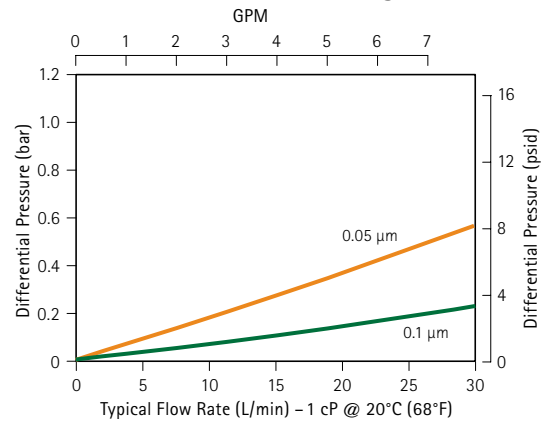


Performance Data

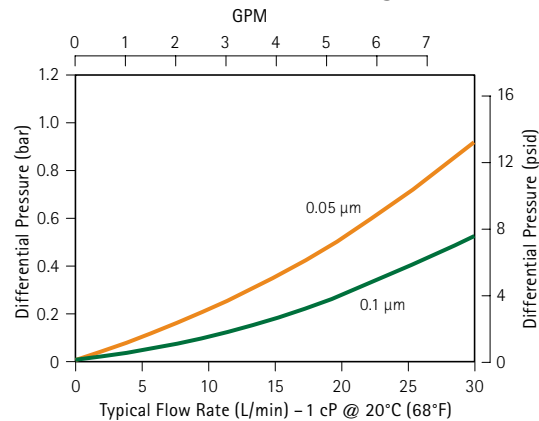
Guardian DEV 10" Disposable Cartridge Filters with 3/8" Flaretek Fittings



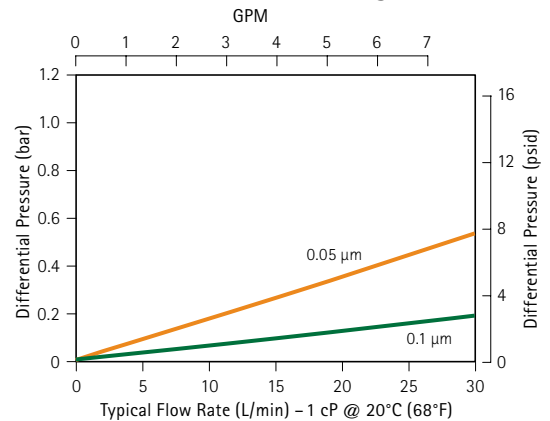
Guardian DEV 10" Disposable Cartridge Filters with 3/4" Flaretek Fittings



Guardian DEV 10" Disposable Cartridge Filters with 1/2" Flaretek Fittings



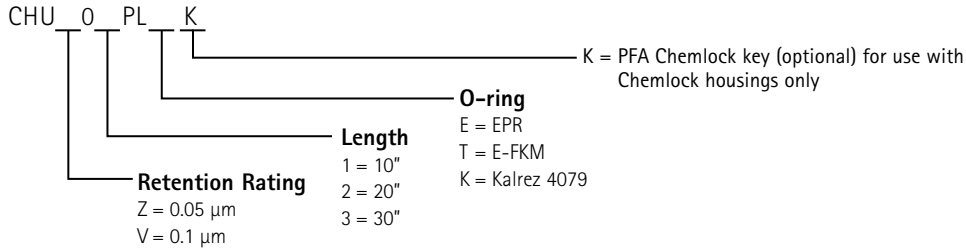
Guardian DEV 10" Disposable Cartridge Filters with 1" Flaretek Fittings



Ordering Information

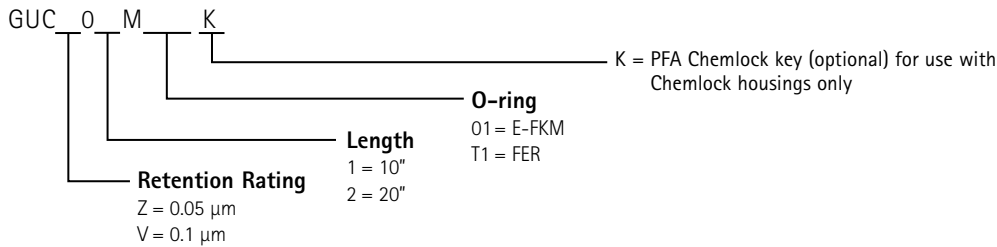
Guardian DEV Cartridge Filters

Part Number



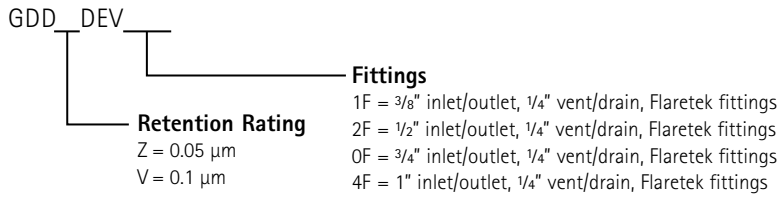
Guardian Plus HPM Cartridge Filters

Part Number



Guardian Plus Chem-Line II Filters

Part Number



For More Information

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