



THERMOGARD™ NE FILTERS

*Reliable nondewetting PTFE membrane filtration,
delivering yield enabling particle protection for nitride
etch baths and other high-temperature applications*



the solution for aqueous-based chemical processes at high temperatures

Overview

Thermogard™ NE filters are specifically designed to provide increased structural stability for high-temperature and high-viscosity conditions. Designed for use in any aqueous-based chemical, the filters are shipped water-wet, and require no IPA prewetting procedures. Without an IPA prewetting requirement, these filters prevent alcohol chemical interaction, avoid potential sources of contamination and eliminate the cost and inconvenience of hazardous waste disposal.

Patented Nondewetting Technology

Thermogard NE filters utilize Entegris' patented nondewetting PTFE membrane technology, delivering consistent particle retention performance for these demanding applications. The nondewetting technology is proven to retain its properties in outgassing chemistries and when chemical baths are drained or purged. This technology offers

quick startup, optimum filtration efficiency and flow and simple and fast installation, resulting in a low total cost of ownership.

Less Handling, More Cleanliness and Safety

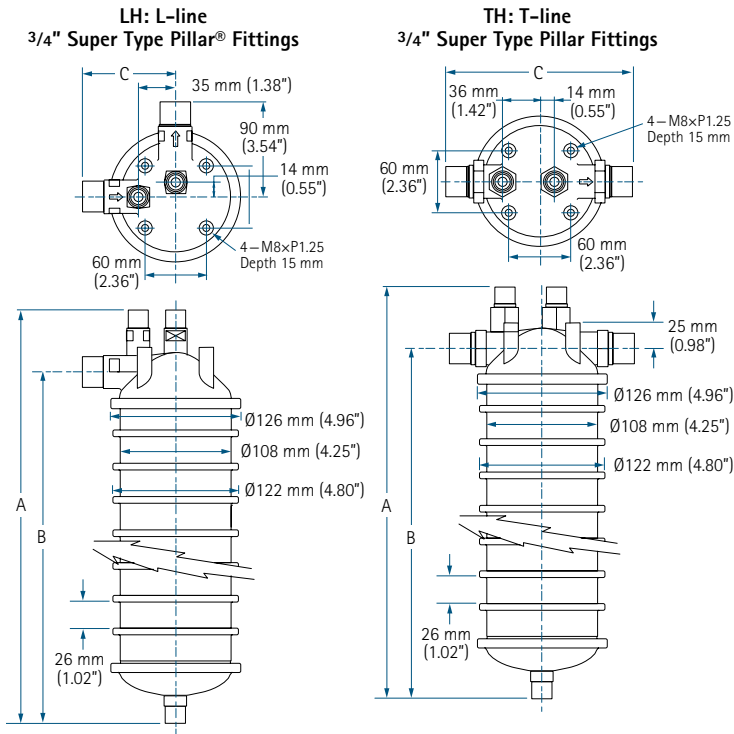
Thermogard NE filters are available in a variety of disposable designs, which eliminates the need for handling of the filter element and decreases the possibility of contamination, making these filters ideal for critical applications that require highest purity liquids. Thermogard NE disposable filters feature a compact and easy-to-handle housing shell, which reduces potential exposure to hazardous chemicals during installation and disposal, and promotes a safer working environment. Thermogard NE disposable filters include Chem-Line™ I and Chem-Line II style filters with optional vent configurations.

Features	Benefits
Nondewetting PTFE membrane	High-performance membrane prevents dewetting in air, during installation or chemical dumps/drains Consistent flow and retention in outgassing chemistries
Packaged in ultrapure DI water	Eliminates prewetting and flushing cycles High-purity, clean and ready-to-use filter
Minimized cost of ownership	Nondewetting membrane enables rapid filter changeout, maximizing process uptime Reduces wear and tear of wet bench pumps minimizing maintenance costs
Disposable filter options	Requires less space for changeout Allows quick installation and minimizes downtime while limiting handling and exposure to hazardous chemicals
Aqueous-based chemical compatibility	Recommended for high-viscosity and high-temperature, aqueous-based applications (including nitride etch, metal etch, SPM and various semi-aqueous resist stripping chemistries).

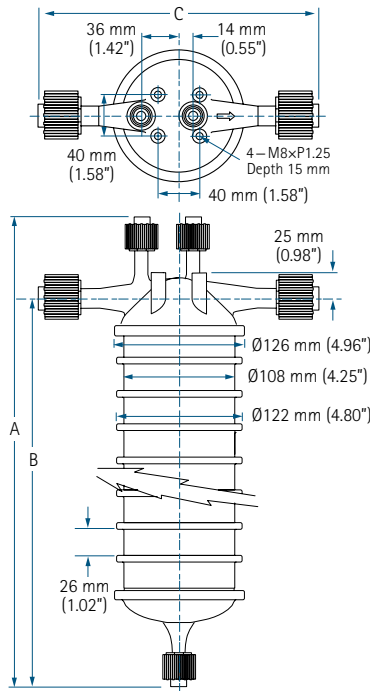
Product Attributes and Specifications

Materials:	Membrane	Prewet, nondewetting PTFE
	Supports	PFA
	Shell	PFA (Chem-Line I and Chem-Line II type)
Retention rating:	0.2 μm	
Membrane area:	1.0 m ² (10.7 ft ²)	
Maximum operating conditions:	Maximum operating pressure	0.58 MPa (5.8 bar; 84 psi) @ 25°C
		0.097 MPa (0.97 bar; 14 psi) @ 180°C
	Maximum forward differential pressure	0.44 MPa (4.4 bar; 64 psi) @ 25°C
		0.05 MPa (0.52 bar; 7.5 psi) @ 180°C
	Maximum reverse differential pressure	0.34 MPa (3.5 bar; 50 psi) @ 25°C
	Maximum operating temperature	180°C
Metallic extractables:	Cartridge	<25 $\mu\text{g}/\text{device}$
	Disposable	<10 $\mu\text{g}/\text{device}$
Particle shedding cleanliness:	<15 particles/10 mL ³ 0.2 μm @ 5 L/min. DI water flow	
TOC recovery (per 10" equivalent):	Within 5 ppb of feed after a 25-minute flush @ 5 L/min.	
Resistivity recovery:	Within 0.5 M Ω of feed after a 120 L water flush @ 1 L/min. (per 10" equivalent)	

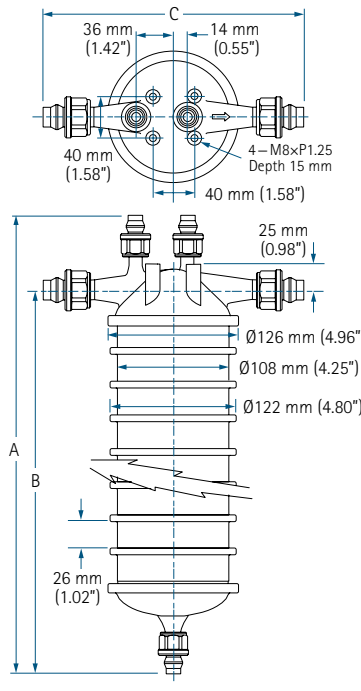
Thermogard NE ATX Chem-Line I Disposable Filters with Standard Vent



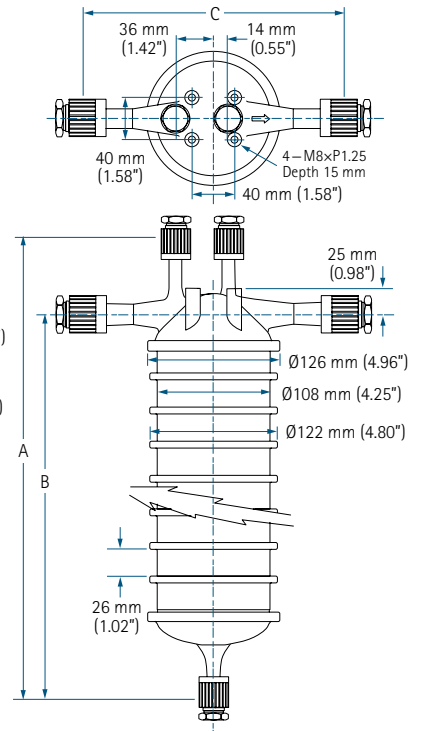
T3: T-tube
3/4" Super 300 Type Pillar Fittings



TW: T-tube
3/4" Flowell® 20 Series Fittings



TF: T-tube
3/4" FlareLock® II Fittings

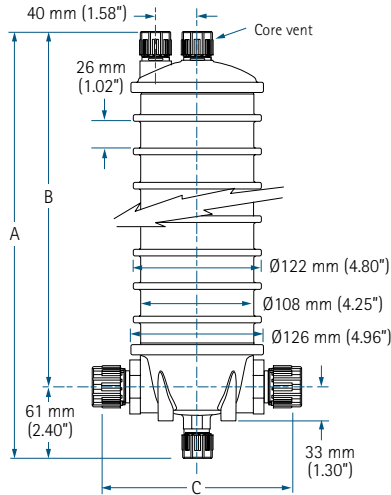


Nominal Dimensions for Chem-Line I with Standard Configuration

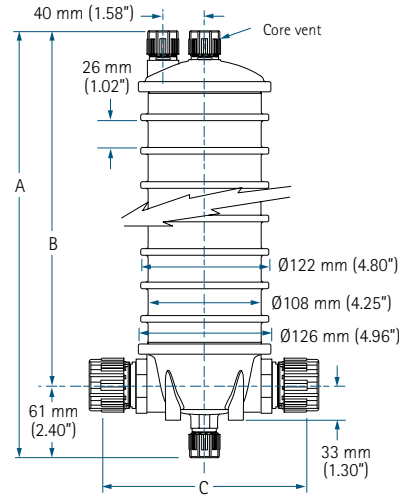
Disposable Type	B		
	A (Overall Height)	(Height: Bottom Fitting to Centerline Inlet Fitting)	C (Inlet to Outlet)
LH: L-line: 3/4" inlet/outlet, 1/2" vent/drain, Super Type Pillar fittings	412 mm (16.22")	351 mm (13.82")	90 mm (3.54")
TH: T-line: 3/4" inlet/outlet, 1/2" vent/drain, Super Type Pillar fittings	396 mm (15.6")	335 mm (13.2")	180 mm (7.08")
T3: T-tube: 3/4" inlet/outlet, 1/2" vent/drain, Super 300 Type Pillar fittings	446 mm (17.56")	367.5 mm (14.47")	267 mm (10.51")
TW: T-tube: 3/4" inlet/outlet, 1/2" vent/drain, Flowell 20 Series fittings	432 mm (17.01")	360 mm (14.17")	250 mm (9.84")
TF: T-tube: 3/4" inlet/outlet, 1/2" vent/drain, FlareLock II fittings	432 mm (17.01")	360 mm (14.17")	250 mm (9.84")

Thermogard NE ATX Chem-Line I Disposable Filters with Core Vent

3S: T-line 3/4" Super 300 Type Pillar Fittings with Core Vent



4S: T-line 1" Super 300 Type Pillar Fittings with Core Vent

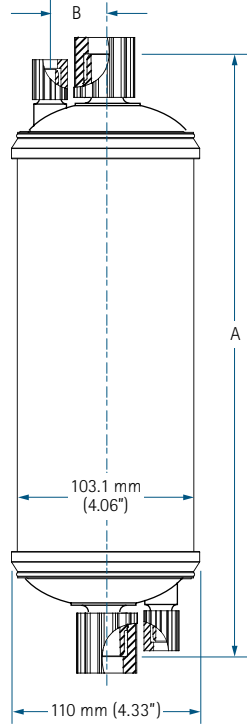


Nominal Dimensions for Chem-Line I with Core Vent Configuration

Disposable Type	B		
	A (Overall Height)	(Height: Bottom Fitting to Centerline Inlet Fitting)	C (Inlet to Outlet)
3S: T-line: 3/4" inlet/outlet, 1/2" vent/drain, Super 300 Type Pillar fittings	388 mm (15.3")	330 mm (13.00")	172 mm (6.77")
4S: T-line: 1" inlet/outlet, 1/2" vent/drain, Super 300 Type Pillar fittings	388 mm (15.3")	330 mm (13.00")	182 mm (7.17")

Thermogard NE ATX Chem-Line II Disposable Filters

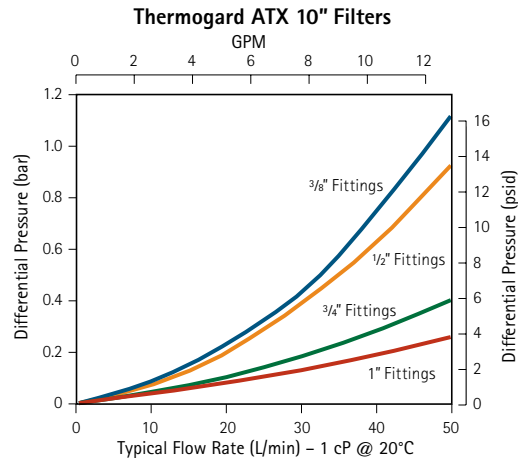
Flaretek® Fittings with
1/4" Vent/Drain



Nominal Dimensions for Chem-Line II Configurations with Flaretek Fittings

Fitting Key	Inlet/Outlet	Vent/Drain	A	B
1F	3/8"	1/4"	345.2 mm (13.59")	37 mm (1.46")
2F	1/2"	1/4"	354.3 mm (13.95")	37 mm (1.46")
0F	3/4"	1/4"	356.4 mm (14.03")	37 mm (1.46")
4F	1"	1/4"	366.5 mm (14.43")	37 mm (1.46")

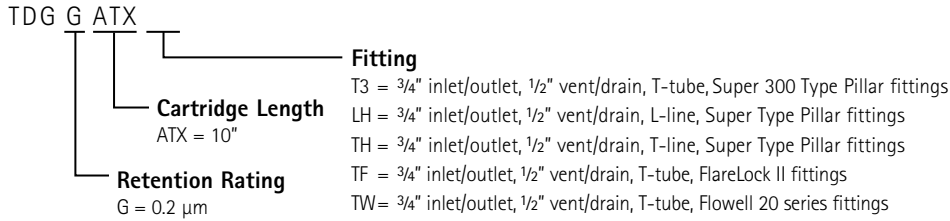
Performance Data



Ordering Information

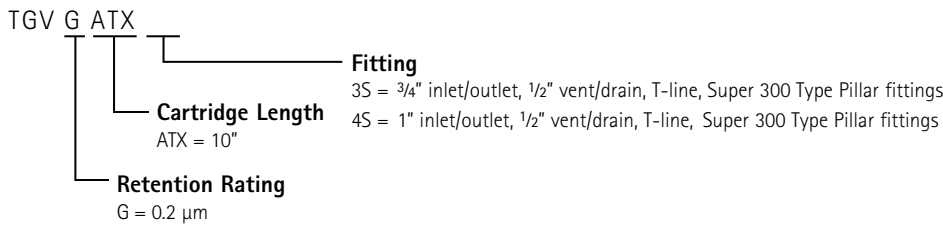
Thermogard NE ATX Chem-Line I Disposable Filters

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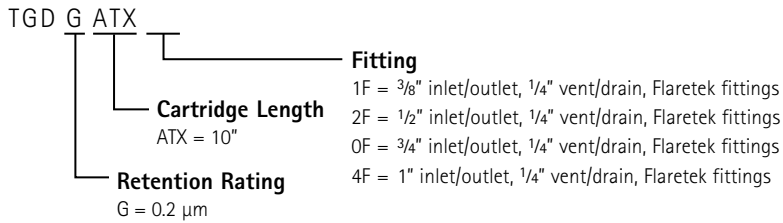
Thermogard NE ATX Chem-Line I Disposable Filters with Core Vent

Part Number



Thermogard NE ATX Chem-Line II Disposable Filters

Part Number



For More Information

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