

CMF™ Charged Membrane Filtration

Bacteria, virus, cysts & Legionella retention

Drinking, Food / Beverage & Process Water Treatment

AlwaysFresh®
Water the way you want it®



Made in the USA

Charged Membrane Filter Cartridges with <1 psid initial loss!
High LRV (log reduction value) Bacteria, Virus, Legionella & Cryptosporidium oocysts
High retention capacity -superior performance vs PES membrane cartridges

The CMF series cartridges retain bacteria, virus and cryptosporidium oocysts with a strong positive Zeta Potential of >51 milli volts without need for high inlet pressures.

Competitive membrane filter cartridge designs rely on mechanical pore size for filtration which does not provide virus reduction.

Many applications demand the added protection for virus in their treatment train. Now you can directly replace your membrane cartridges with the CMF series & address Bacteria, Virus, Protozoan Cysts & Legionella with one cartridge design.

CIP requirements of membrane filters frequency is replaced with CIP at time of cartridge change of just the vessel and piping.

The CMF cartridges do not require the CIP process nor does it extend the cartridge life. Agion® Silver Zeolite Antimicrobial agent blended throughout the media during the raw material production.



This allows spent cartridges to be disposed of as normal waste vs a bio hazard!

Design Features

Major end seal options are available to fit most any standard filter vessels

- Pleated design with low flux rates
- Sonic welded end caps and side seams for integral sealing
- Polypropylene protective cage
- All materials of construction are FDA listed as acceptable for potable and edible liquid contact according to CFR Title 21
- Integrity Verification
 - Non destructive Integrity testing performed on each production lot
- NSF Standard 61 compliant & USP VI compliant
- Broad pH range 5.5-9



Cartridge design has been performance tested, evaluated and verified by the USEPA & 3rd party @ BCS Lab

Applications

- Food & Beverage
- Bottled Water
- Drinking Water
- Medical
- Life Science
- Process Water

Particle reduction required to achieve maximum life of these cartridges. See water quality guidelines.

ΔP, (Delta P) , Pressure Differential:

Equal to different in pressure at two points in a system with liquid/media flowing. For precise measurement open a drain line after the filter to eliminate Delta P impact from downstream equipment. ie. nozzles etc. Note, some backpressure is required!

Failure to change filters at Change out ΔP indicated per operating specifications can result in collapse, damage to filter or no flow downstream. Critical applications should utilize audible alarm for end of life ΔP.

Types:

Pressure Gauge: One Installed upstream and one downstream of filter. One must visually record and subtract the difference.

Differential Pressure Gauge: Two inlets - one for upstream and one for downstream. This gauge displays the Delta P

Different Switches: Two inlets - one for upstream and one downstream. Electrical signal send to display to signal end of life Delta P.

Product recommendations are based on known application requirements and product technical data. They are offered for further consideration only. The user is responsible for testing and verifying that the product is suitable for the application.

CMF™ Series Performance & Specifications

Certified Performance*

CMF Series Systems

These systems conform to NSF/ANSI Std 61 Raw Material NSF/ANSI Std 61 Certified by WQA for drinking water water contact CMF system design has been performance tested, evaluated and verified by the USEPA T & E Facility

MS2 Bacteriophage Virus	> 99.9%
Adenovirus	92.0%
Cryptosporidium	>99.999%
Bacillus globigii	99.8%
RT Bacteria	>99.99%
Legionella pneumophila	>99.9%
Endotoxins	96%**

Operating Specifications

Max Temperature: 200°F (93°C)
 Temperature @ 35 psid: 160°F (71°C)
 Change Out ΔP: 35 psi (2.4 bar)
 ΔP @ Ambient 70°F (21°C): 70 psi (4.8 bar)
 ΔP @ 200°F (93°C): 20 psi (1.4 bar)
 Flow Rate: 5 gpm (19 lpm) per 10 in length
 Initial pressure drop : <5 psi (.34 bar)

* Tested with Influent <=water quality guidelines
 **Independently tested

Conforms to Testing protocols as recommended in the USEPA Public Drinking Water Guidance Manuals

Influent Water Quality Guidelines for Maximum LRV Efficiency

Performance Efficiency:

The CMF Series cartridges is designed for microbial retention & pretreatment for particulates, color, iron, manganese, & total organic carbon must be installed upstream to maintain the life of cartridge.

Pretreatment Guidelines:

Turbidity <=1 NTU	Manganese <0.05 ppm
TOC <50 mg/L	TDS <30 g/L
pH 5-9.5	TSS <1 ppm
Iron <0.3 ppm	Color <10 units

Pretreatment for waters containing high levels of TSS is critical in achieving the capacity of these cartridges.

Capacity Retention of Bacteria, Virus, Cysts & Legionella

Exceeds 1 million organisms per gpm of design flow rate.

Challenged > 250 million organisms per gpm of design flow rate during testing!

Ordering Information

CMF25	Cartridge Length	Flow gpm Nominal	End Cap configuration
	10	5	TC = 222 O-Ring/Flat
	20	10*	TF = 222 O-Ring/Fin
	30	15*	SC = 226 O-Ring/Flat
	40	20*	SF = 226 O-Ring/Fin
			PC = Patented Oval
			PCF = Patented Oval w/fin

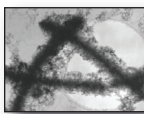
CMF47	Cartridge Length	Flow gpm Nominal	End Cap configuration
	12	10*	PC = Patented
	24	20*	requires POE vessel with mating receiver
	40	40*	

Specifications are subject to change without notification.

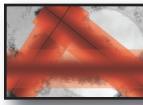
*Performance data for LRV results based upon these flow rates, some process waters that do not require these LRV results can operate at higher flow rates based upon performance requirements. Exceeding these flow rates will lower the LRV performance.

CMF Charged Membrane Filtration the inside story

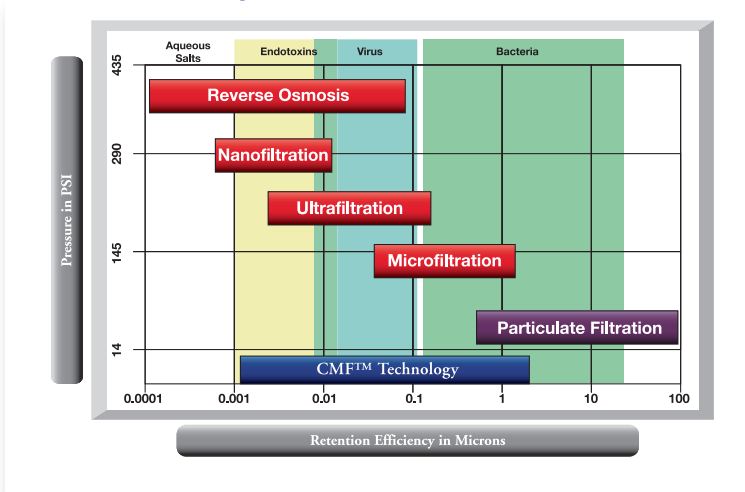
Mechanical Filtration

 A Mean pore size 1.5 micron is provided via glass structures which have Electro-Adsorptive positive charged fibers grafted to material. There are 400 such structure layers within the 0.8 mm thick material which creates a torturous flow path.

Adsorption / Retention of Organisms

 The Electro-Adsorptive charge extends along each structure to create a nearly total capture of the pore openings. This provides a retention efficiency that approaches nano filtration with very low pressure requirements.

Strong Positive Zeta potential provides Electro adsorptive retention >= .002 micron rating.



Warranty:

12 months from date of purchase or 24 months from date of manufacture.



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Form# RC-CMF Series cartridges 2017 specs