

## 3M™ Water Filtration Products

Chloramines Reduction Systems for the Foodservice Industry



**Better Water Means  
Better Beverages  
and Better Business**

**3M**



Consistently great tasting water  
is an **essential ingredient**  
in any post-mix dispensing system.

## Chlorine and Chloramines: Protecting our Water

Since the 1800's, advancements in the disinfection of drinking water have steadily improved public health by lowering the rates of infectious diseases spread through untreated water. In the United States, the Environmental Protection Agency (EPA) requires that water utilities throughout the U.S. adhere to stringent regulations for drinking water to protect the public from disease-causing microorganisms.

Chlorine is the most common disinfectant used in municipal water supplies, a very effective, low-cost agent for quickly killing potentially harmful waterborne bacteria, viruses and organisms.

At the same time however, chlorine has several disadvantages. On the one hand, it's a relatively unstable element that dissipates quickly in water. As a result, chlorine may lose its disinfection properties at the far ends of long municipal pipe runs. More significantly, it can react with certain organic materials in water to form byproducts such as trihalomethanes (THM's), which have been linked to an increased risk of cancer.<sup>1</sup>

<sup>1</sup> It is estimated that THM's in drinking water are responsible for as many as 17% of diagnosed bladder cancers each year in the U.S.

Source: Water Quality Association, Chloramines: Technical Application Bulletin

## What are Chloramines?

To address these disadvantages, municipal water supplies have replaced chlorine with chloramines.

**The EPA has determined that chloramines are a practical and effective disinfectant.**

Chloramines is an inorganic compound created by adding small amounts of ammonia to chlorine. The resulting compound is chemically more stable than chlorine, which means it dissipates far less quickly and thus ensures better disinfection, particularly as water sits or travels through long runs of municipal water pipes from treatment plants to consumers. In addition, because the compound does not bond readily with organic materials, its usage is increasing to meet new and stricter EPA guidelines regarding levels of THM's and other potentially harmful byproducts in water supplies.

## How do I know if chloramines are in the water?

Though not required by law, municipalities typically supply this information over the phone, online or in literature. 3M has water test kits that can be used for testing your water. Contact your local 3M representative for assistance.

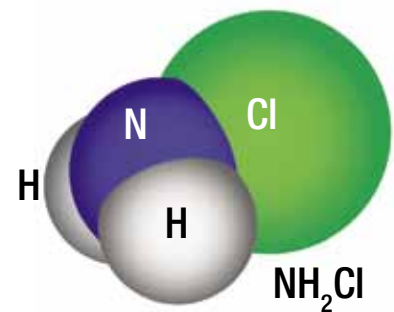


## Chloramines: Why take them out of the water?

A major disadvantage of chloramines is taste and odor. This problem affects both hot and cold beverages: coffee and espresso may taste sour; carbonated drinks, especially diet beverages, may become bitter and flat. Consumers notice the difference, and it can affect repeat business and healthier profits.

Additionally, new dispensing technologies are changing the industry. From super-concentrated syrups to computerized dispensing, they are revolutionizing traditional fountain offerings. With their increasing sophistication and complexity, however, they are raising the bar on the need for post-mix dispensing filtration options that satisfy the need to eliminate chloramines.

Typical water treatment technologies are ineffective for reducing chloramines. And while simple carbon filters reduce chlorine, standard water filtration systems do not reduce chloramines. 3M, however, offers a variety of filtration systems that do.



### The use of chloramines is not new.

In fact, chloramines have been employed by water utilities for nearly 90 years. In the U.S., chloramines are used in nearly 30% of all water utilities.

Their use is expected to increase due to the implementation of the EPA's stricter Stage 2 Disinfection and Disinfection By-Products (D/DBP2) Standards by July, 2014.





Efficient and effective chloramines reduction for the foodservice industry from 3M, a world leader in innovative technology for a changing world.

## 3M Solutions

3M offers a variety of filtration systems to fit the needs of foodservice operators. For example, 3M has designed both cyst and high-capacity filtration systems for customers depending on their level of need for chloramines reduction. Modular manifold design means additional heads can be added so that the system can grow as needed. Regardless of the chloramines reduction system option you choose, you can be sure your customers will be provided Recipe Quality Water™ for great tasting, consistent beverages.



# Integrated Membrane and Pre-Activated Carbon Technology (“I.M.P.A.C.T.”) a 3M Technology



By using premium state-of-the-art catalytic carbon in a carbon-block formulation, research scientists at 3M have developed an extremely efficient and effective method for reducing chloramines from drinking water. We call this technology Integrated Membrane and Pre-Activated Carbon Technology (“I.M.P.A.C.T.”).

Because of this technology chloramines reduction cartridges effectively reduce:

- Chloramines
- Bacteria
- Chlorine taste and odor
- Cryptosporidium and giardia cysts
- Sediment, silt and ferric iron

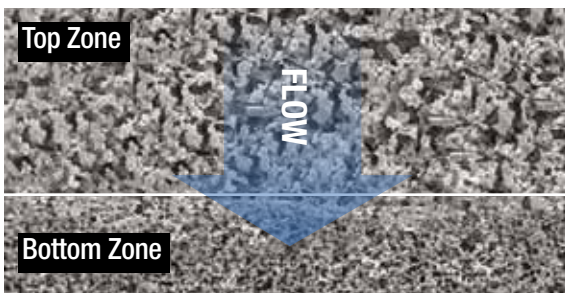
Integrated Membrane and Pre-Activated Carbon Technology (“I.M.P.A.C.T.”) systems are NSF certified, and feature sanitary quick change (SQC) cartridges for fast and easy cartridge change-outs.

Integrated Membrane and Pre-Activated Carbon Technology (“I.M.P.A.C.T.”) media combines a pharmaceutical-grade microporous membrane and a pre-activated carbon block in a single cartridge to dramatically reduce pressure drop and practically eliminate the need for pre-filtration. The integrated membrane provides superior sediment-holding capabilities while reducing cryptosporidium and giardia cysts, and over 99.99 percent of waterborne bacteria<sup>1</sup>. The carbon block releases virtually no carbon fines. Pre-activation of the carbon media is not required.

- Lower pressure drop
- Better bacteria reduction
- Higher dirt-load capacity

## Two-Zone Membrane

Large particles are captured in the top zone and smaller particles in the bottom zone of the graded density microporous nylon membrane, providing superior cartridge sediment-holding capacity.



**Microscopic, cross-sectional view of the Integrated Membrane and Pre-Activated Carbon Technology (“I.M.P.A.C.T.”) pleated membrane.**

<sup>1</sup>As tested and verified with E. Coli ATCC (11229) or Pseudomonas (B) diminuta ATCC(19146) by Manufacturer’s laboratory.



Integrated Membrane and Pre-Activated Carbon Technology (“I.M.P.A.C.T.”) Chloramines reduction cartridges feature:

1. Polypropylene design
2. The pleated membrane helps provide cyst and bacteria protection, including superior particulate-holding capabilities with minimal pressure drop
3. Premium carbon-block technology
4. Enhanced pleated membrane has up to six times the surface area of leading competitive products

# High-Flow Series Chloramines Reduction Water Filtration Systems Featuring Integrated Membrane and Pre-Activated Carbon Technology (“I.M.P.A.C.T.”) Technology

## Single-Application Systems

These systems feature 3M Integrated Membrane and Pre-Activated Carbon Technology (“I.M.P.A.C.T.”) media and deliver Recipe Quality Water™ to single foodservice applications. Enhanced high-flow filters have nearly six times the surface area of leading competitive cartridges for improved sediment filtration, reduced pressure drop and longer cartridge life. These compact systems are great for under-counter installations.

### HF160-CL Chloramines Reduction System for Cold Beverage Applications

Application Guide
<b>Fountain/Post Mix</b>
Single Carbonator, FCB and/or Non-Carb Dispensers
<b>Juice Machines</b>
Single and Multi-Dispenser, Push Button and Portion-Control Juice Machines



Model No.	3M Part No.	Micron	Flow Rate	Capacity	Repl Ctg	Reduction Claims	CCP No.
HF160-CL	56260-01	0.2	2.2 gpm (8.3 lpm)	4,700 gals (17,789 lit)	HF60-CL (56259-01) CCP No. 125285	Bacteria <sup>2</sup> , sediment <sup>3</sup> , chloramines <sup>1</sup> , chlorine taste & odor, cyst	125287

### HF160-CLS Chloramines Reduction System for Hot Beverages and Ice

Application Guide
<b>Medium to High Volume Coffee</b>
1, 2 and 3-Warmer Brewers, Liquid Coffee, Airpot Brewers and 3-Gallon Urns
<b>Medium to High Volume Tea/Iced Tea</b>
3, 3.5 and 4-Gallon Tea and Iced Tea Brewers
<b>Ice Machines</b>
Commercial Cubers



Model No.	3M Part No.	Micron	Flow Rate	Capacity	Repl Ctg	Reduction Claims	CCP No.
HF160-CLS	56260-02	0.2	2.2 gpm (8.3 lpm)	4,700 gals (17,789 lit)	HF60-CLS (56259-02) CCP No. 125286	Bacteria <sup>2</sup> , sediment <sup>3</sup> , chloramines <sup>1</sup> , chlorine taste & odor, cyst, scale	125288

<sup>1</sup>As tested and verified by independent laboratory  
<sup>2</sup>As tested with E. Coli ATCC (11229)

<sup>3</sup>As tested and verified by manufacturer's laboratory.



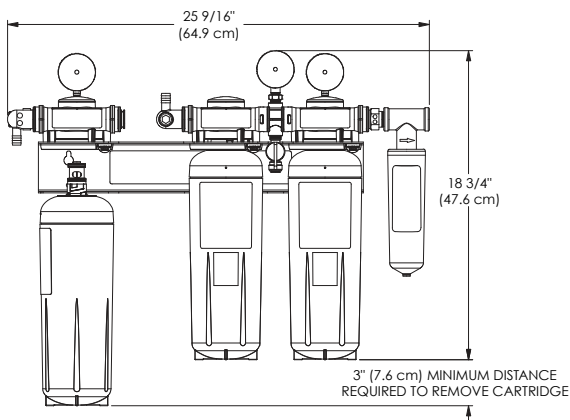
## Multi-Application System

Centralized system, featuring Integrated Membrane and Pre-Activated Carbon Technology (“I.M.P.A.C.T.”) media, designed to provide Recipe Quality Water™ to multiple pieces of equipment that require different water characteristics.



### DF260-CL-CC Dual-Flow Chloramines Reduction System for Cold Beverages, Ice and Coffee

Application Guide
<b>Fountain/Post Mix</b>
Single or Dual Carbonator, FCB and/or Non-Carb Dispensers
<b>Medium to High Volume Coffee/Tea</b>
1, 2 and 3-Warmer Brewers, Liquid Coffee, Airpot Brewers, 3-Gallon Urns and 3 and 4-Gallon Tea Brewers
<b>Ice Machines</b>
Commercial Cubers and/or Flakers



Model No.	3M Part No.	Micron	Flow Rate	Capacity	Repl't Ctg	Reduction Claims	CCP No.
DF260-CL-CC	56270-01	0.2	4.4 gpm (8.3 lpm) 3.34 gpm (12.64 lpm)	9,400 gals (17,789 lit) 19,000 gals (71,923 lit)	DF 260 Cartpak: HF60-CL (Qty 2) HF60-S-SR5 (Qty 1) (56138-15) CCP No. 125830	Bacteria <sup>2</sup> , sediment <sup>3</sup> , chloramines <sup>1</sup> , chlorine taste & odor <sup>3</sup> , cyst, scale <sup>3</sup>	125675

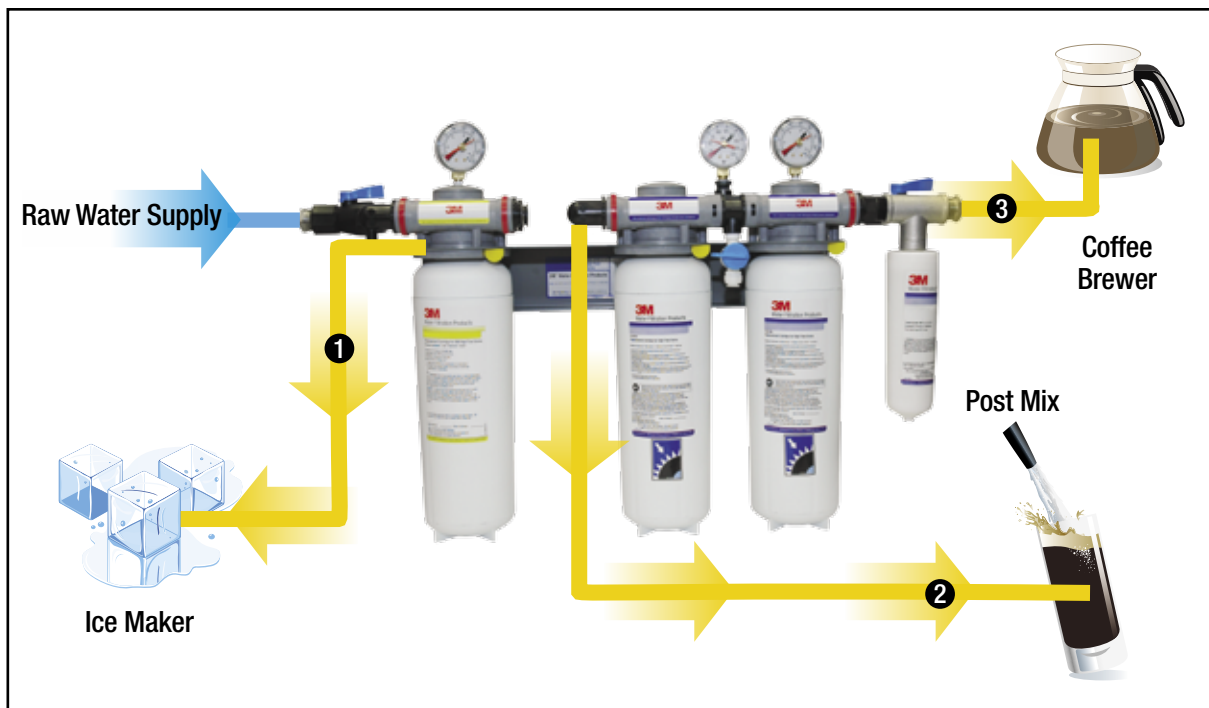
<sup>1</sup>As tested and verified by independent laboratory  
<sup>2</sup> As tested with E. Coli ATCC (11229)

<sup>3</sup>As tested and verified by manufacturer's laboratory.

## DF260-CL-CC Plumbing Diagram

Three separate filtration streams tailored to provide Recipe Quality Water™ to ice, cold beverages and coffee.

- 1 The first water stream supplies ice machines and is filtered to reduce sediment, cyst and bacteria, providing the ice machine with chlorinated water for biofilm control. It also includes a scale-inhibition media to reduce hard-scale buildup on the evaporator plate.
- 2 The second water stream supplies cold-beverage applications and is filtered for reduced sediment, chloramines, chlorine taste and odor, cyst and bacteria, and carries no scale-inhibition media.
- 3 The third water stream supplies coffee brewers and reduces sediment, chloramines, chlorine taste and odor, cyst and bacteria. A proportionately dosed scale-inhibition media is added from a dedicated HF8-S cartridge to reduce the ability of calcium and magnesium to precipitate as hard scale on the heating coils of a coffee brewer.







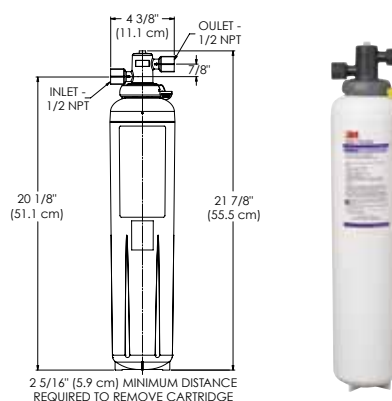
# High-Capacity Chloramines Reduction Systems

3M™ Water Filtration Products High-Capacity Chloramines Reduction Systems help provide consistent premium-quality water for high-volume foodservice applications. These systems feature advanced carbon-block technology that effectively reduces sediment, chloramines, chlorine taste and odor. Systems are NSF Standard 42 compliant and feature Sanitary Quick Change (SQC) cartridges for fast and easy change-outs.

## Single-Application Systems

### HF195-CL Chloramines Reduction System for Cold Beverages

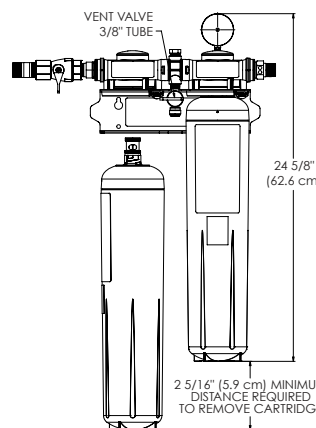
Application Guide
<b>Fountain/Post Mix</b>
High Volume Single Carbonator, FCB and/or Non-Carb Dispensers
<b>Juice Machines</b>
High Volume Single and Multi-Dispenser, Push Button and Portion-Control Juice Machines



Model No.	3M Part No.	Micron	Flow Rate	Capacity	Repl't Ctg	Reduction Claims	CCP No.
HF195-CL	56258-02	5	2.5 gpm (9.5 lpm)	30,000 gals (113,550 lit)	HF95-CL (56273-02) CCP No. 127830	Sediment, chloramines <sup>1</sup> , chlorine taste & odor	127828

### HF295-CL Chloramines Reduction System for Cold Beverages

Application Guide
<b>Fountain/Post Mix</b>
High Volume or Triple Carbonator, FCB and/or Non-Carb Dispensers
<b>Juice Machines</b>
High Volume Single and Multi-Dispenser, Push Button and Portion-Control Juice Machines



Model No.	3M Part No.	Micron	Flow Rate	Capacity	Repl't Ctg	Reduction Claims	CCP No.
HF295-CL	56275-01	5	5.0 gpm (18.9 lpm)	60,000 gals (227,100 lit)	HF95-CL (Qty 2) (56273-02) CCP No. 127830	Sediment, chloramines <sup>1</sup> , chlorine taste & odor	127829

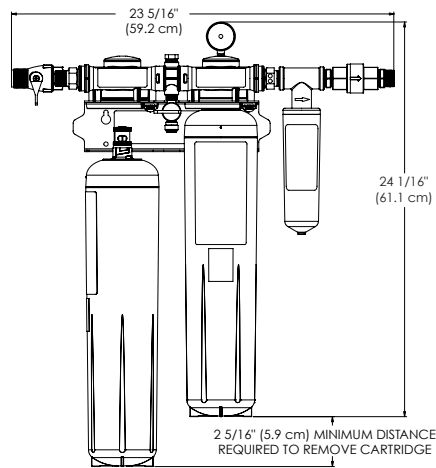
<sup>1</sup>As tested and verified by independent laboratory

# Dual-Port Chloramines Reduction System

## Multi-Application System

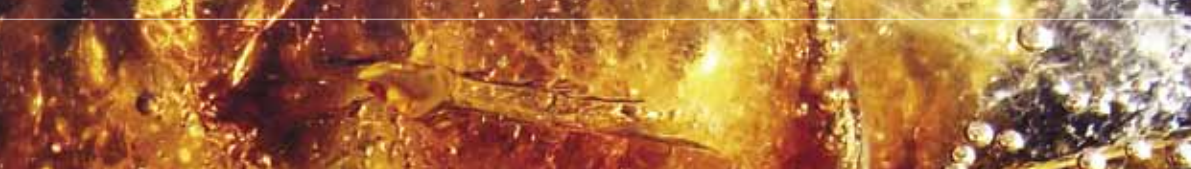
**DP295-CL**  
 Dual-Port Chloramines  
 Reduction System for Cold  
 Beverages, Ice and Coffee

Application Guide
<b>Fountain/Post Mix</b>
High Volume or Triple Carbonator, FCB and/or Non-Carb Dispensers
<b>Medium to High Volume Coffee/Tea</b>
1, 2 and 3-Warmer Brewers, Liquid Coffee, Airpot Brewers, 3-Gallon Urns and 3 and 4-Gallon Tea Brewers
<b>Ice Machines</b>
Commercial Cubers and/or Flakers



Model No.	3M Part No.	Micron	Flow Rate	Capacity	Repl't Ctg	Reduction Claims	CCP No.
DP295-CL	56242-04	5	5.0 gpm (18.9 lpm)	60,000 gals (227,100 lit)	DP295 Cartpak: HF95-CL (Qty 2) & HF8-S (56138-18) CCP No. 128373	Sediment, chloramines <sup>1</sup> , chlorine taste & odor, scale	127829

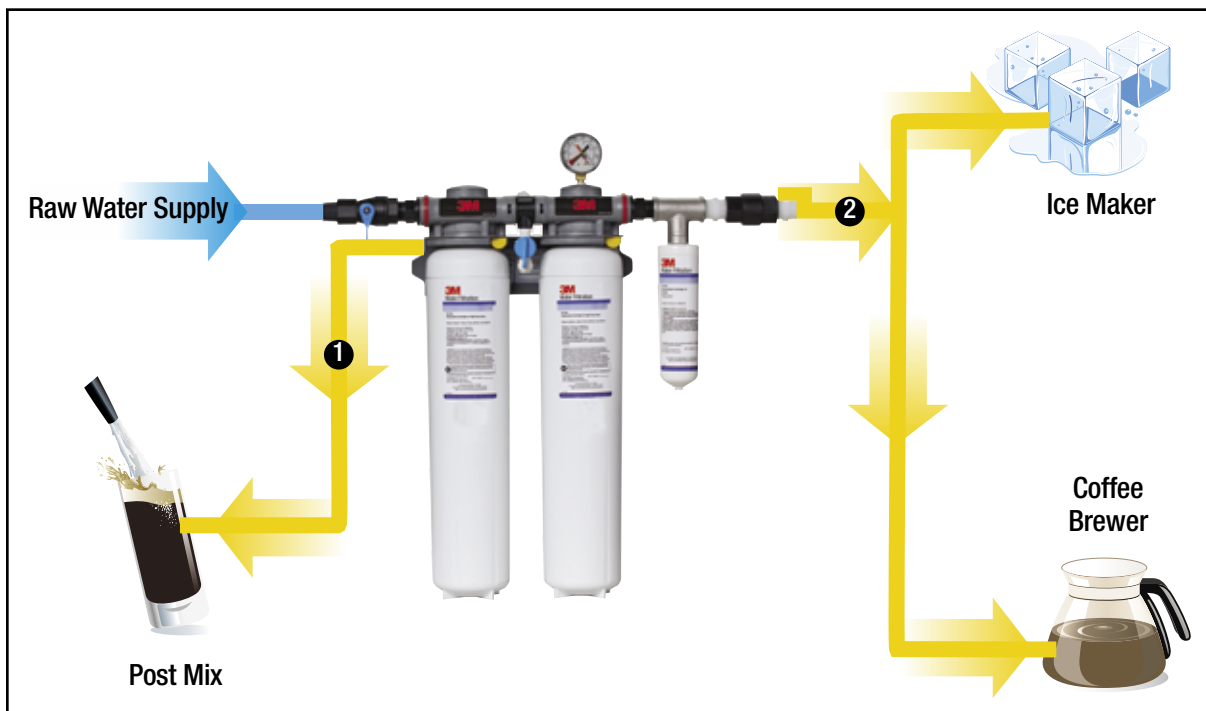
<sup>1</sup>As tested and verified by independent laboratory



## DP295-CL Plumbing Diagram

Two separate filtration streams tailored to provide reduced sediment, chloramines, chlorine taste and odor.

- 1 The first stream supplies cold-beverage dispensers for reduced sediment, chloramines, chlorine taste and odor.
- 2 The second stream supplies ice machines and coffee brewers for reduced sediment, chloramines, chlorine taste and odor as well as the proportionately controlled scale inhibitor.







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