

# Polygard® CE Filters

## High-efficiency prefilters for removal of colloids from beverages



- ▶ Composite filter media for increased colloid retention capacity
- ▶ Ideal for protecting final membrane filters, or prefilters in "difficult" applications
- ▶ Conveniently fits all cartridge housings
- ▶ Resistant to backpressure
- ▶ Easy to clean and maintain
- ▶ Certificate of Compliance in each box

For 45 years, Millipore has assisted beverage companies throughout the world with perfecting manufacturing operations and developing microbial management concepts for monitoring and removing microorganisms. Taking from this experience, we have developed the Polygard CE filter to help with the critical needs in beverage manufacturing. Polygard CE is a pleated filter with composite glass fiber, inorganic filter aid and polypropylene media which provides unique characteristics useful in wine and some bottled water applications where difficult to remove colloidal particles present a challenge.

The unique media combination in the Polygard CE filter combines the high adsorption capacity of a glass microfiber and diatomite with the robustness of polypropylene for high resistance to backflush, peracetic acid, chlorine 100 ppm, and temperature. Polygard CE filters are available in a range of grades to retain colloidal matter better than any other prefilter cartridge. Use Polygard CE filters as:

- An alternative to Bevigard™ P and Bevigard M filters in protecting final Vitipore™ cartridge filters
- Protection for Bevigard P and Bevigard M filters

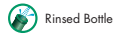






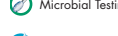
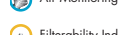

### Application Characteristics

Polygard CE filters are engineered for high efficiency filtration giving extended protection to downstream final filters. Glass fibers with diatomaceous earth and polypropylene are fused into a composite filter medium to provide exceptional throughput and high colloidal retention capability. The Polygard CE filters can be repeatedly hot water regenerated providing highly cost effective filtration. They are supplied with a Certificate of Compliance, which certifies that Polygard CE filters meet quality assurance lot release criteria.

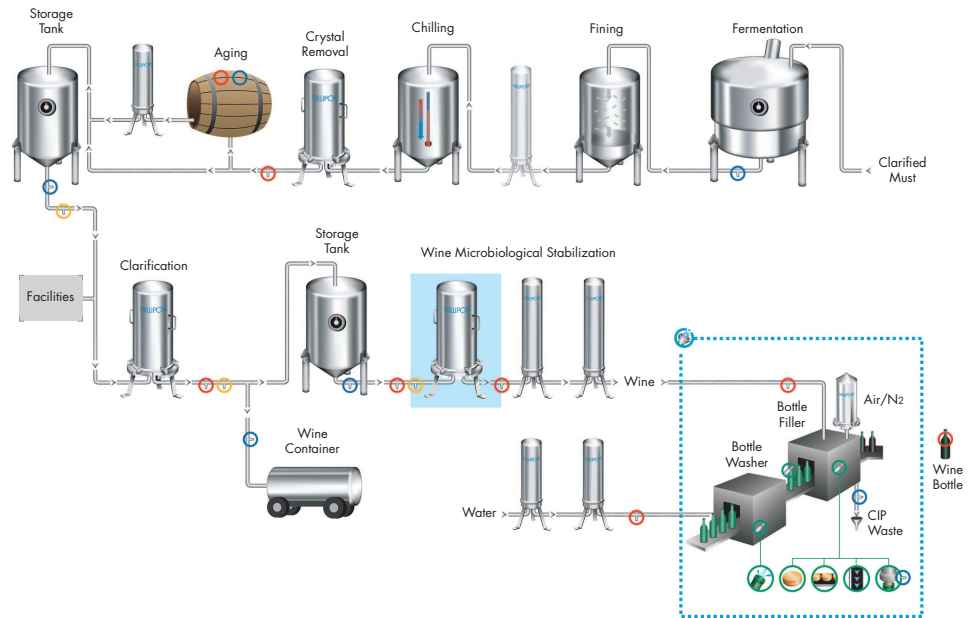


# Use Polygard CE Filters in Your Beverage Production Processes

## Wine Processing

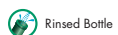







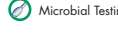

-  Rinsed Bottle
-  Cap
-  Cap Conveyor
-  Bottle Conveyor
-  Filling Head
-  Microbial Enumeration (ME)
-  Rinse Water (RW)
-  Microbial Testing of Surfaces (MS)
-  Air Monitoring (AM)
-  Filterability Index (FI)

 Polygard CE Filter

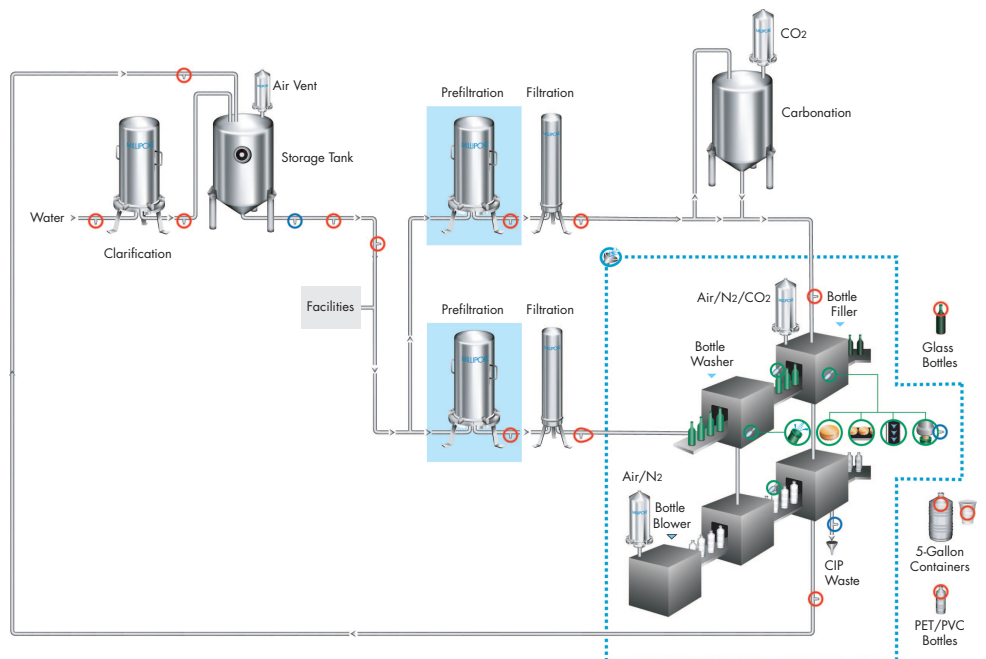


*In wine processing, the Polygard CE filter has the role of protecting the final filter, ensuring a long life time and good economics, as well as a role of assuring the microbiological stabilization by reducing the initial bioburden.*

## Bottled Water Processing

-  Rinsed Bottle
-  Cap
-  Cap Conveyor
-  Bottle Conveyor
-  Filling Head
-  Point of Consumption
-  Microbial Enumeration (ME)
-  Rinse Water (RW)
-  Microbial Testing of Surfaces (MS)
-  Air Monitoring (AM)

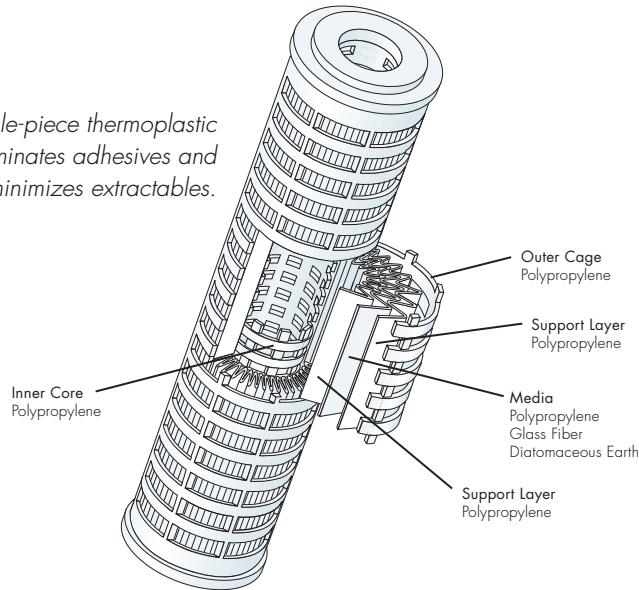
 Polygard CE Filter



*During bottled water manufacturing, the Polygard CE filter protects the final filter to ensure a long life, provide good filtration train economics and minimize the risk of particulate and microbiological contamination.*

## Rugged Construction

Rugged, single-piece thermoplastic construction eliminates adhesives and minimizes extractables.



## Certificate of Compliance

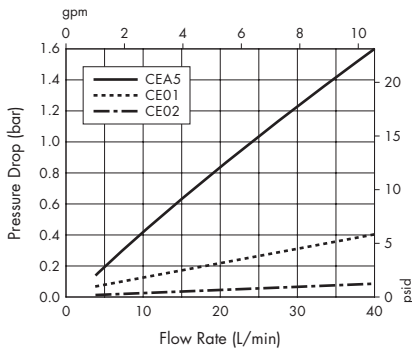
Each Polygard CE Filter package contains a Certificate of Compliance for documentation accuracy. This document certifies that the component materials meet FDA Indirect Food Additive requirements cited in 21 CFR 177–182 and that product was designed and manufactured to stringent specifications assuring its suitability for demanding beverage filtration applications.

## Specifications

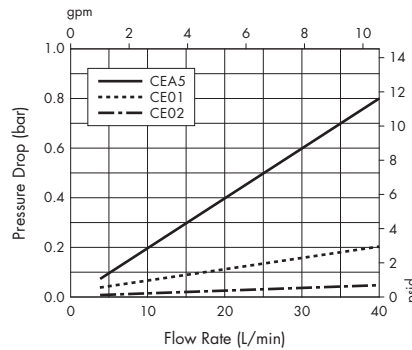
	Per 10-inch Element Code 7	Code 0	Code F (excluding gasket)
<b>Nominal Dimensions</b>			
Diameter:	70 mm (2.75 in.)		
Overall length:			
10-inch cartridge:	319 mm (12.6 in.)	264 mm (10.4 in.)	246 mm (9.8 in.)
20-inch cartridge:	568 mm (22.4 in.)	512 mm (20.2 in.)	496 mm (19.6 in.)
30-inch cartridge:	816 mm (32.1 in.)	761 mm (30.0 in.)	746 mm (29.4 in.)
40-inch cartridge:	1062 mm (42.1 in.)	1011 mm (39.8 in.)	996 mm (39.2 in.)
<b>Micron Retention Grades (Pore Size)</b>	0.5, 1.0, 2.0 $\mu\text{m}$		
<b>Filtration Area</b>			
0.5 $\mu\text{m}$ :	0.21 m <sup>2</sup> (2.2 ft <sup>2</sup> ) per 10-inch element		
1.0 $\mu\text{m}$ :	0.30 m <sup>2</sup> (3.2 ft <sup>2</sup> ) per 10-inch element		
2.0 $\mu\text{m}$ :	0.50 m <sup>2</sup> (5.3 ft <sup>2</sup> ) per 10-inch element		
<b>Materials of Construction</b>			
Filter media:	Polypropylene, inorganic filter aid, glass fibers		
Structural components:	Polypropylene		
O-rings (Code 7):	Silicone		
Gasket (Code F):	Silicone		
<b>Typical Operating Flow</b>			
Wine applications:			
0.5 $\mu\text{m}$ :	800 – 1,000 litres per hour (200 – 260 gallons per hour) per 30-inch cartridge		
1.0 $\mu\text{m}$ :	1,000 – 1,200 litres per hour (250 – 310 gallons per hour) per 30 inch cartridge		
Water applications:			
0.5 $\mu\text{m}$ :	1,000 – 1,500 litres per hour (250 – 400 gallons per hour) per 30 inch cartridge		
<b>Maximum Differential Pressure</b>	4.8 bar (70 psid) at 20 °C (68 °F)		
<b>Maximum Operating Temperature</b>	80 °C (176 °F)		
<b>Sterilization, Steam or Autoclave</b>	121 °C, 5 cycles of 30 minutes		
<b>Hot Water Sanitization</b>	80 °C maximum for 30 minutes		
<b>Indirect Food Additive</b>	All component materials meet the FDA Indirect Food Additive requirements cited in 21 CFR 177-182.		

## Typical Clean Water Flow Rates

Cartridge Filters with Polygard CE Media  
— 10-inch



Cartridge Filters with Polygard CE Media  
— 20-inch



### Cartridge Legends

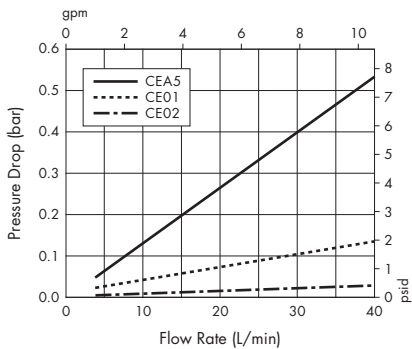
Refers to Pore Size

CEA5 = 0.5 µm

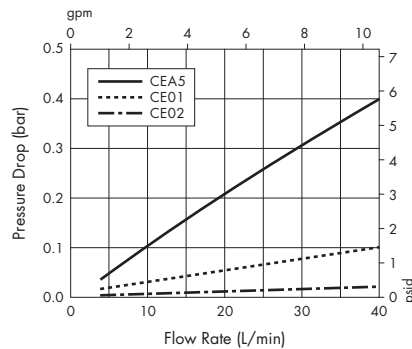
CE01 = 1.0 µm

CE02 = 2.0 µm

Cartridge Filters with Polygard CE Media  
— 30-inch



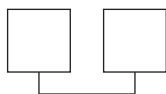
Cartridge Filters with Polygard CE Media  
— 40-inch



## Ordering Information



**Depth Filter Cartridge**



**Pore Size**

A5 = 0.5 µm

01 = 1.0 µm

02 = 2.0 µm



**Cartridge Length**

1 = 10-inch

2 = 20-inch

3 = 30-inch

4 = 40-inch

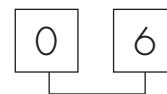


**O-ring or Gasket**

S = Silicone

E = Ethylene

Propylene



**Quantity per Package**

06 = 6/pk

**Cartridge Code**

0 = Code 0 (2-222) O-ring

7 = Code 7 (2-226) O-ring with locking tab and spear

F = Code F Double open-end flat gasket

## To Place an Order or Receive Technical Assistance

For additional information call your nearest Millipore office:

In the U.S. and Canada, call toll-free **1-800-MILLIPORE (1-800-645-5476)**

In the U.S., Canada and Puerto Rico, fax orders to **1-800-MILLIFX (1-800-645-5439)**

Outside of North America contact your local office. To find the office nearest you visit [www.millipore.com/offices](http://www.millipore.com/offices).

Internet: [www.millipore.com](http://www.millipore.com)

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