

Purification and Filtration Solutions



3M™ LifeASSURE™ BLA Series Filter Cartridges

Designed for optimum filtration quality

LifeASSURE BLA series filters are Solventum’s advancement in membrane filter cartridge technology. Encompassing two leading-edge processes, multi-zone microporous membrane technology and Advanced Pleat Technology (APT) construction, the LifeASSURE BLA series filter cartridges offer unmatched protection of final membrane filter cartridges, as well as long service life. Designed with pleated Nylon 6,6 membrane in an all-polypropylene cartridge construction, LifeASSURE BLA series filter cartridges are ideally suited for a wide range of pre-filtration and clarification applications in the beverage industry.

Optimal system performance

Used as a pre-filter, LifeASSURE BLA series filter cartridges help protect and extend the service life of our 3M™ LifeASSURE™ BA, BNA and BDA series, final filter cartridges, as well as other membrane filter cartridges. LifeASSURE BLA series filter cartridges will:

- Increase final filter cartridge life substantially
- Decrease filter cartridge change-outs, substantially reducing filter cartridge costs
- Significantly reduce effluent microorganism content

Features and benefits

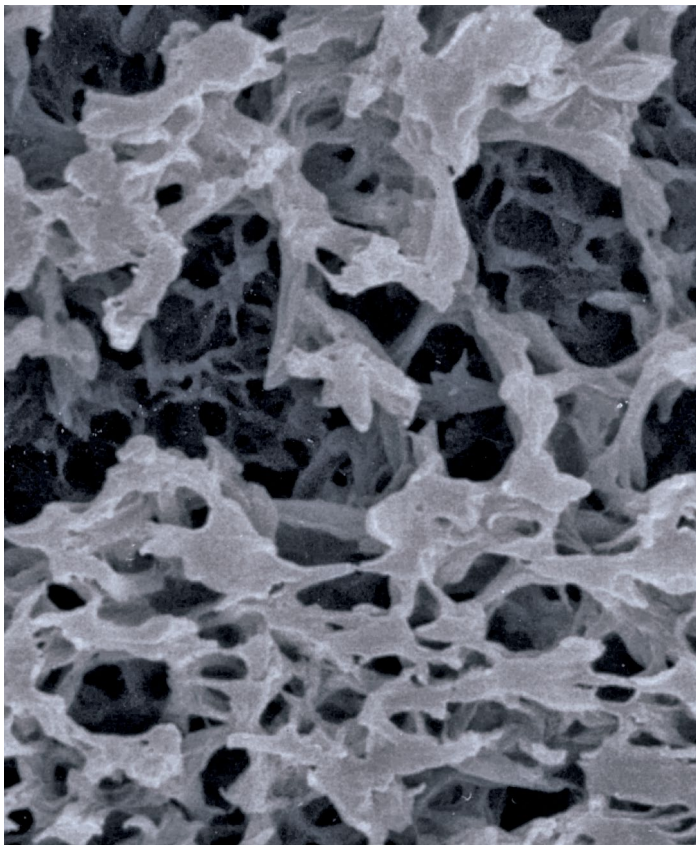
Features	Benefits
Multi-zone microporous membrane	<ul style="list-style-type: none">• Increased contaminant capacity• Extended service life• Maximum membrane protection
Advanced pleat technology construction for high surface area	<ul style="list-style-type: none">• Higher throughputs and longer service life than competitive filter cartridges• Lower total filtration costs than competitive filter cartridges
100% integrity tested in manufacturing. In situ integrity testing ensures proper installation and operation	<ul style="list-style-type: none">• Proper installation and operation
Food contact compliance	<p>Certain 3M LifeASSURE BLA products are compliant with:</p> <ul style="list-style-type: none">• US FDA 21 CFR• EU food contact regulation (EC) 1935/2004• other food contact regulations <p>Contact your Solventum representative for detailed declaration of compliance information for food contact applications.</p>



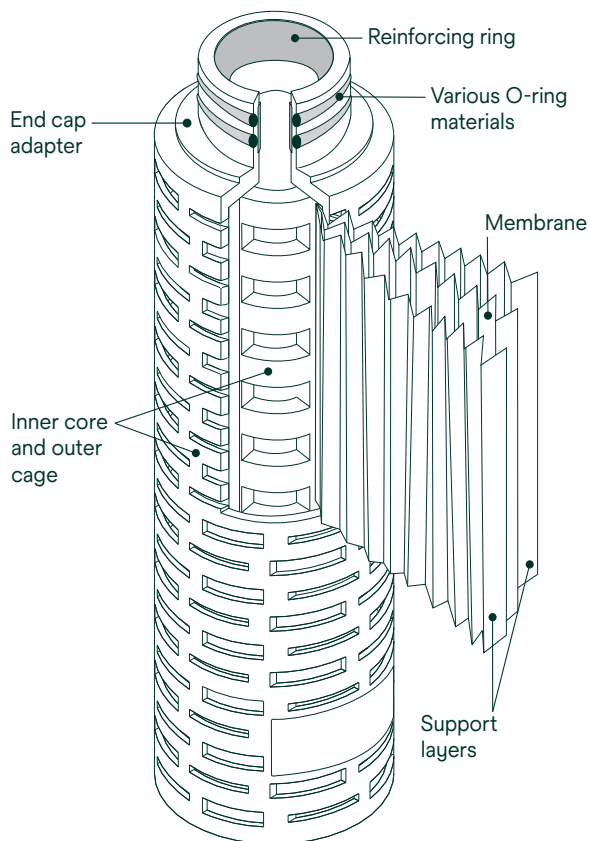
Applications

LifeASSURE BLA series filters are optimized for prefiltration and clarification service in food and beverage applications.

- Wine
- Beer
- Bottled water
- Soft drinks
- Syrups
- Food grade dyes and flavors
- Blending and wash water
- Distilled spirits



SEM of Multi-zone Microporous Membrane



Multi-zone Microporous Membrane Technology

LifeASSURE BLA series filter cartridges incorporate Solventum's advanced multi-zone microporous membrane technology. It allows excellent flexibility in creating a multi-zone membrane that offers the maximum in contaminant holding capacity while maintaining high retention efficiency. The SEM photograph shows that the single layer LifeASSURE BLA membrane consists of an "open" zone on the upstream side of the membrane and a "tighter" zone on the downstream side. In effect, the open zone acts as a pre-filter by capturing larger particles and colloids while the tighter zone provides the retention of smaller contaminants. This multi-zone structure eliminates dual-layer membrane construction to provide a larger surface area, significantly increased contaminant holding capacity and longer service life than competitive filter cartridges.

Advanced Pleat Technology construction

LifeASSURE BLA series filters also feature Solventum's innovative Advanced Pleat Technology (APT) construction for extended service life. This design construct maximizes the useful surface area of the filter cartridge while maintaining proper flow paths between media pleats.

Microorganism reduction

For effective prefiltration and clarification of beverages, microorganism reduction is a critical parameter resulting in economical, reliable filter cartridge systems.

In tests with *Brevundimonas diminuta*, (considered one of the smallest bacteria) LifeASSURE BLA020 series grade filter cartridges exhibited an average log reduction value (LRV) of 7.3 and the LifeASSURE BLA045 series grade filter cartridges exhibited an average LRV of 3.5.

Installation integrity test

The installation integrity test is a non-destructive measurement of a filter cartridge's ability to function as intended. Conducting an installation integrity test assures the user that the filter cartridge is installed and sealed correctly in the filter cartridge housing and is ready for service.

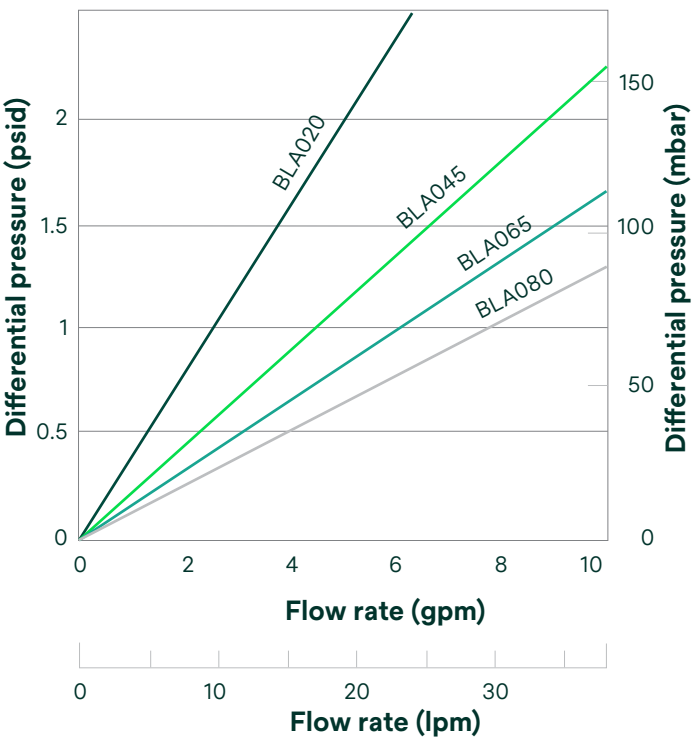
Unlike other pre-filter cartridges, LifeASSURE BLA series filter cartridges are 100% tested for integrity in manufacturing prior to shipment. Additionally, LifeASSURE BLA series filter cartridges are integrity testable *in situ* by the user.

The use of hot water (176°F/80°C) sanitation or steam (250°F/121°C) sterilization are common strategies employed in beverage production to maintain clean systems. LifeASSURE BLA series filter cartridges are constructed with Nylon 6,6 membrane optimized for thermal stability to ensure resistance to hot water or steam cycles.

Longer life with caustic cleaning

Cleaning solutions, such as sodium hydroxide, can effectively reduce the impact of beverage colloids in plugging membrane filter cartridges. LifeASSURE BLA series filter cartridges, as with 3M™ LifeASSURE™ BA series filter cartridges, can be cleaned with a dilute caustic flush, reducing differential pressure build up and extending service life.

Recommended cleaning parameters	
NaOH concentration	2% by weight
Maximum temperature	140°F (60°C)
Flow rate	3 GPM (11 LPM)
Duration	30 minutes



LifeASSURE BLA Series 10 inch Filter Cartridge water flow rates @ 77°F (25°C)

3M™ LifeASSURE™ BLA Series Filter Cartridges construction

LifeASSURE BLA series filter cartridges are constructed of single-layer, Nylon 6,6 microporous membrane pleated with polypropylene upstream and downstream support materials. The inner core, outer cage and endcap adapters are made of polypropylene. Multiple length filter cartridges with industry standard connection styles are produced to fit the most widely used housing designs and system sizes. No resin or binder compounds are added. LifeASSURE BLA series filter cartridges are 100% integrity tested after manufacture to ensure quality.



3M™ LifeASSURE™ BLA Series Filter Cartridges

Filter cartridge component	Material of construction
Outer cage, Inner core, End-cap adapters, Media support layers	Polypropylene
Membrane	Nylon 6,6
Adapter support ring	Polysulfone or Stainless steel

Filter cartridge dimensions	
Filtration surface area	11 ft. ² (1 m ²)
Outside diameter	2-3/4" (70 mm) nominal
Length	Nominal 10" (254 mm), 20" (508 mm), 30" (762 mm), 40" (1016 mm)

Operating parameters	Specification
Maximum operation temperature	176°F (80°C) for 30 minutes sanitization
Maximum differential pressure	Forward: 80 psid (5.5 bar) @ 77°F (25°C), 25 psid (1.7 bar) @ 176°F (80°C)
Recommended filter cartridge change-out differential pressure	35 psid (2.4 bar)
Hot water sanitization	30 minutes @ 176°F (80°C)
Steam sterilization	30 minutes @ 250°F (121°C)
Integrity test methods	Consult Solventum for appropriate values for the specific filter cartridge and housing in use.

Ordering guide

3M™ LifeASSURE™ BLA Series Filter Cartridges ordering guide

Filter cartridge grade	Removal rating (µm)	Configuration	Length (Inches)	End- modification	Gasket or O-ring material	Adapter insert
BLA	020 – 0.20 045 – 0.45 065 – 0.65 080 – 0.80	B – Pleated APT configuration	01 – 10 02 – 20 03 – 30 04 – 40	B – 226 O-ring & spear C – 222 O-ring & spear D – Double open end ¹ E – Double open end ² F – 222 O-ring & flat cap	A - Silicone B - Fluorocarbon C - EPR	2 - SS insert

Please note: The ordering guide above is for reference only. Not all combinations are available.

Please consult with your Solventum Representative to determine the appropriate part number for your application.

¹ 10" length (254 mm)

² 9-3/4" length (248 mm)

Intended Use: LifeASSURE BLA Series products are intended and are compliant for use in Food and Beverage filtration applications of aqueous and non-aqueous fluids in accordance with the product instructions, specifications and where materials of construction are compatible. For specific details regarding use or limitations for food contact applications please contact your Solventum representative for more information. Since there are many factors that can affect a product's use, the customer and user remain responsible for determining whether the Solventum product is suitable and appropriate for the user's specific application, including user risk assessments and evaluation of the Solventum product in the user's application.

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3M Purification is now part of Solventum

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