Monitoring the Quality of Beverages, Water and Foods

Biosart® 100 Monitors
and Biosart® 100 Media

Simplifying Progress

SARTORIUS

Fast and Reliable: Biosart® 100 Monitors & Media

Microbiological Quality Control With Biosart® 100 Monitors Increases Efficiency and Saves Time

The detection of microbial contamination in sample liquids such as final product, incoming inspection or during in-process testing plays a significant role in the quality assurance process. The requirements for a practical microbiological test method are that it permits quantitative and reproducible detection of trace contamination and that it can be performed efficiently and economically under routine conditions. These requirements are fulfilled optimally by the membrane filtration method. The use of ready-to-use disposable units simplifies the testing procedure and prevent crosscontamination of samples.

Biosart® 100 Monitors have been specifically designed for the detection and enumeration of microorganisms in beverages, water, pharmaceuticals, cosmetics, foods and other liquids. These sterile disposables with an incorporated membrane filter and cellulose pad are ready-to-use. After filtration, just remove the 100 mL funnel to convert the Monitor into a petri dish eliminating the need for membrane manipulation. Culture media for wetting the pad are available in individually sterilized, convenient plastic ampoules. Biosart® 100 Monitors are ready-to-use filter units designed to be placed onto the bases of a vacuum manifold, eliminating the cleaning and sterilization required of reusable funnels.

High Flow Membranes

Biosart® 100 Monitors are also available with the new 0.45 µm High Flow membranes. The special pore structure allows shorter filtration times due to 30% higher flow rates.

Compliance with International Standards

The membrane filtration method is worldwide accepted and the preferred method of choice for the analysis of microbial contamination in liquid samples. Biosart® 100 Monitors and Media are in compliance with the membrane filtration procedures referenced in the:

- European drinking water directive (Council Directive 98/83/EC on the quality of water)
- Standard Methods for the Examination of Water and Waste Water, 20th edition
- U.S. Environmental Protection Agency, 600/8-78-017.
- ISO Standard's microbiological methods, such as ISO 7704, ISO 9308-1, EN 12780, ISO 8199
- WHO Guidelines for Drinking Water Quality, 1997
- International Pharmacopoeia, such as the current editions of the USP and EP

The quality management system of Sartorius meets the requirements of the International Standard ISO 9001. For quality assurance all materials are selected carefully in accordance with current regulations and recommendations, such as the FDA CFR's and applicable current Good Manufacturing Practices.

Biosart® 100 Monitors

Specifications

Housing	Polystyrene
Membrane filter	Cellulose nitrate (cellulose ester): choice of white, green or grey, with grid; Regenerated cellulose: white; can be used as documentation
Plug and adapter	Polyethylene
Pad	Cellulose
Capacity	100 mL, 10 mL graduations
Pore size	0.2 µm, 0.45 µm or 0.8 µm
Filter diameter	47 mm
Filtration area	14.5 cm^2
Max. operating pressure	Vacuum only
Outlet	6.5 × 1.5 mm
Lot certificates	Recovery rate, sterility and specifications

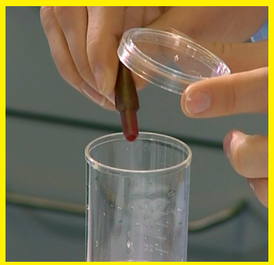
Each lot is tested by Sartorius for accordance with established specifications before release, and each box includes a lot certificate.

Easy Work Flow – Reliable Results

1 | Pour the Sample

2 | Apply Vacuum & Filter the Sample

3 | Add the Biosart® 100 Nutrient Media



4 | Close the Outlet

5 | Remove the Funnel

6 | Incubate the Petri Dish

Microsart® Manifolds – The Filtration Stand That Adapts to Your Need

Product Information

The ability to accurately detect and quantify microorganisms in liquid samples is of prime importance for any quality control laboratory. This is why membrane filtration is the established method of choice for liquid testing as it provides reliable and reproducible results. A suitable and thoughtful filtration equipment is at least as important as high quality membrane filters and reliable media plates. Facilitate your daily microbiological testing procedures with the new Microsart® Manifold: select the proper manifold for your individual microbiological testing procedure, choose between reusable and single use funnels or filtration units, and decide between different sizes of manifolds and enjoy the manifold that adapts to your needs.

Applications

Microbiological quality control of liquid samples:

- Beverages (beer, wine, soft drinks, bottled water)
- Pharmaceutical analysis (WFI, purified water, Microbial Limit Testing of non-sterile products, bioburden testing)
- Environmental water testing (water monitoring)
- Cosmetics

The Manifold That Adapts to Daily Needs
Depending on the number of daily tests you can choose between different sizes of manifolds, from single branch to multi-branch. The different Manifold sizes are connectable with each other by quick connection to enable the manifold to adapt to your daily workload. Standardized quick connectors at both sides of the manifolds enable fast connections of either tubing, another manifold or end caps. Depending on your application and criticality of product to be tested, choose between different funnel and filtration units, from complete reusable to single sterile solutions. Simply connect the filter onto the manifold by using the correct adaptor. Simply push the filter adapter into the manifold to fix it and choose your favorite between 3 different working positions. This new and fast way to connect the respective filter adapter (base support) to the manifold eliminates the need of additional tools.

Minimized Risk of Secondary Contamination by Design
The Manifold is made of 100% stainless steel. For sterilization of your working equipment, no disassembly is needed – simply put the complete manifold including the filter adapters into the autoclave for reliable sterilization. The easy to clean, compact design of the manifold allows quick and easy cleaning using standard disinfectants. The higher quality of the stainless steel material and the consequence in using one material type ensures a long working life of the manifold in your lab. During filtration, residual remaining liquid below the filter could potentially cross-contaminate the filter and therefore your results. The newly designed and integrated sterile venting step enables full drainage of liquid below the filter when using the Microsart® base support (Microsart® base). This integrated venting step eliminates the risk of secondary contamination and ensures a secure working procedure.

Safe and Stable Ergonomic Working Procedures
The Manifolds rubber feet providing better stability at the workplace. The low height ensures efficient and ergonomic working under the laminar flow. Intuitive handling of the valves is given by clear start | stop feedback when turning the valves and indications on the manifold. Venting is automatically occurring when turning the valves to the stop position at the end of the filtration.

Microsart® Manifolds

Specifications

Materials of construction	
Manifold and base supports	Stainless Steel 316L (1.4404)
Valves	Monel
O-rings	Silicon
Feet	Silicon
Dimensions (L × H × W) in mm (without Funnels and Tubing)	
1 branch	176 × 120 × 98
2 branch	246 × 130 × 118
3 branch	474 × 120 × 98
6 branch	924 × 120 × 98
Weight in kg	
1 branch (for Microsart® products)	0.275
2 branch (for Microsart® products)	0.675
3 branch (for Microsart® products)	0.725
6 branch (for Microsart® products)	1.400
Autoclaving conditions	
121 °C for 30 min	

Ordering Information

Biosart® 100 Monitors

Superior Performance
- High flow rate
- High total throughput

Safe and Reliable
- Sterile or individually, sterile packaged
- Consistently recovery
- Membranes meet ISO 7704
- Membranes available in various colors
- Without any hydrophobic adhesive areas

Economical
- Ready to connect and easy to use
- Minimal amount of equipment needed

Biosart® 100 Monitors, 100 mL, 47 mm, individually packaged, sterile, 48 units

Pore size	Membrane filter color | Grid color	Order No.
0.2 µm	Cellulose nitrate white | black	16401-47-07--ACK
0.45 µm	Cellulose nitrate white | black	16401-47-06--ACK
0.45 µm	Cellulose nitrate green | dark green	16402-47-06--ACK
0.45 µm	Cellulose nitrate gray | white*	16403-47-06--ACK

Biosart® 100 Monitors, 100 mL, 47 mm, packaged in trays, sterile, 48 units

0.2 µm	Cellulose nitrate white | black	16401-47-07----K
0.45 µm High Flow	Cellulose nitrate white | black	16401-47-H6----K
0.45 µm	Cellulose nitrate white | black	16401-47-06----K
0.45 µm	Cellulose nitrate green | dark green	16402-47-06----K
0.45 µm	Cellulose nitrate gray | white*	16403-47-06----K
0.8 µm	Cellulose nitrate gray | white*	16403-47-04----K
0.45 µm	Regenerated cellulose white	16404-47-06----K

Biosart® 100 Monitors, 100 mL, 47 mm, sterile, 48 units

0.45 µm High Flow	Cellulose nitrate white | black	16401-47-H6-V--K
0.45 µm	Cellulose nitrate white | black	16401-47-06-V--K
0.45 µm	Cellulose nitrate gray | white*	16403-47-06-V--K
0.8 µm	Cellulose nitrate gray | white*	16403-47-04-V--K

* Gray membranes after wetting black

Biosart® 100 Nutrient Media

Safe and Reliable
- Presterilized media
- Certificate of quality for every batch
- In compliance with international standards
- Consistently recovery

Economical
- Ready-to-use
- Long shelf life

Biosart® 100 Nutrient Media, 2.5 mL, individually, sterile packaged in ampoules, 50 units

Determination of	Media type	Order No.
Total count	Caso (acc. USP)	16400-02----CA-K
	R2A (acc. EP)	16400-02----RA-K
	TGE | Total Count	16400-02----TC-K
	Total Count TTC	16400-02----TZ-K
E. coli and coliforms	m Endo	16400-02----EN-K
	m FC	16400-02----MF-K
	Lauryl Sulfate | Teepol	16400-02----LS-K
	Tergitol TTC	16400-02----TT-K
Enterococci	KF Strep | Azide	16400-02----KF-K
Pseudomonas aeruginosa	Cetrimide	16400-02----CE-K
Yeasts and molds	Sabouraud (acc. USP)	16400-02----SB-K
	m Green yeast and mold | Schaufus Pottinger	16400-02----MG-K
	m Green yeast and mold selective	16400-02----GS-K
	Wort	16400-02----WZ-K
Yeasts and molds and bacteria	WL Nutrient | Wallerstein Nutrient	16400-02----WN-K
Bacteria in fermentation processes	WL Differential | Wallerstein Differential	16400-02----WL-K
Acid-tolerant microorganisms	Orange Serum	16400-02----OS-K

Microsart® Manifolds for Biosart® Monitors

Description	Order No.
Microsart® 1-branch stainless steel manifold with adapter for Biosart® Monitors	168M1-BS100
Microsart® 2-branch stainless steel manifold with adapters for Biosart® Monitors	168M2-BS100
Microsart® 3-branch stainless steel manifold with adapters for Biosart® Monitors	168M3-BS100
Microsart® 6-branch stainless steel manifold with adapters for Biosart® Monitors	168M6-BS100

Biosart® 100 Monitor Adapter and Membrane Lifter

Description	Adaptation	Order No.
Biosart® 100 Adapter	Adapter for use Biosart® 100 Monitors on Microsart® Manifolds	16424
Biosart® 100 Membrane Lifter, ABS	For easy transfer to agar	16417

Poster Overleaf

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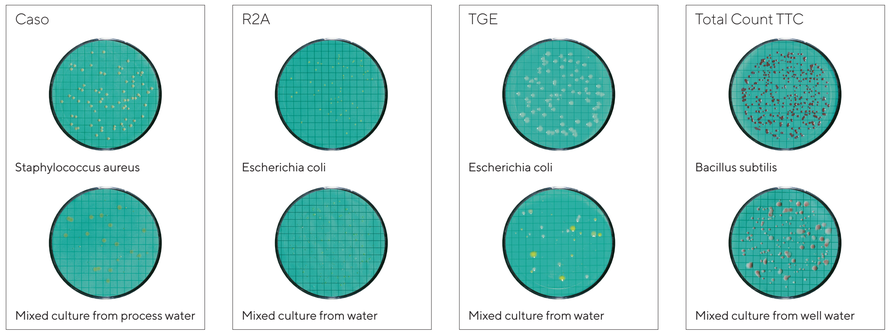
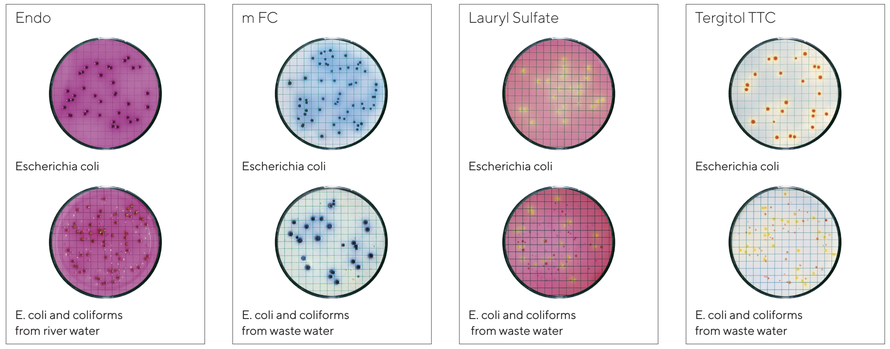
Biosart® 100 Nutrient Media

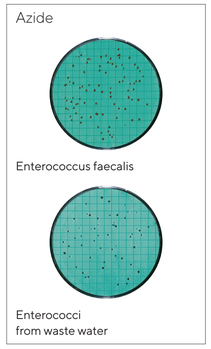
Total colony count



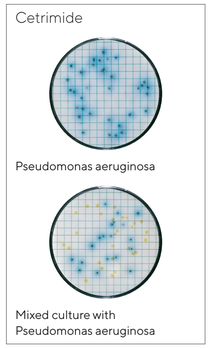
E. coli and coliforms, Enterobacteria



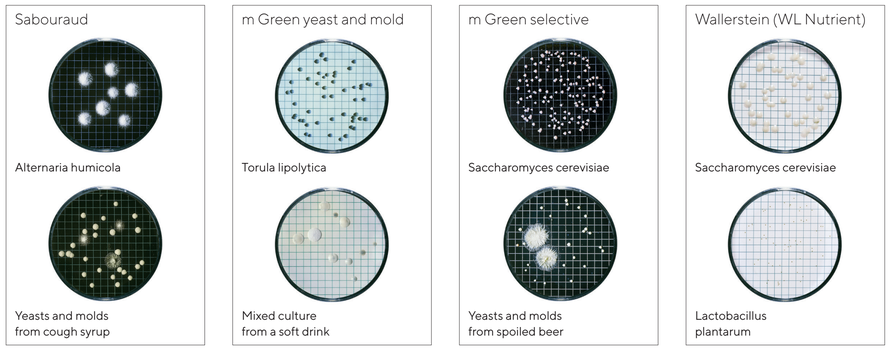
Other faecal bacteria



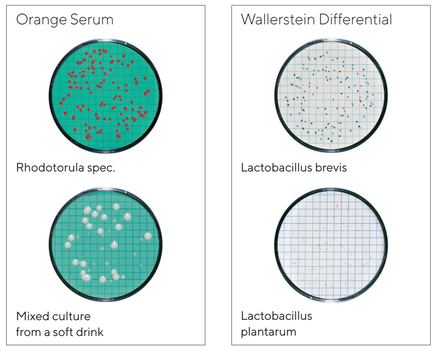
Non-faecal, pathogenic bacteria



Yeasts and molds



Product-spoiling microorganisms



Typical Application Examples

Product	Detection and enumeration of ...	Biosart® 100 Nutrient Media Type
Beer	Lactobacilli and Pediococci other beer spoiling organisms	Lactobacilli and Pediococci and
	Total colony count	Total Count TTC
	Yeasts and molds	Wallerstein Nutrient, Wort
Foods	Acid-tolerant microorganisms	Orange Serum
	Enterobacteria, E. coli and coliforms	Endo, m FC, Teepol | Lauryl Sulphate, Tergitol TTC
	Enterococci, Enterococcus faecalis	Azide | KF Strep
	Pseudomonas aeruginosa	Cetrimide
	Total colony count	Caso, TGE | Tryptone Glucose Extract
	Yeasts and molds	Wort
Fruit juice	Enterobacteria, E. coli and coliforms	Endo, Tergitol TTC*
	Oenococcus and other product spoiling organisms	Orange Serum, Wallerstein Differential
	Yeasts and molds	m Green yeast and mold | Schaufus Pottinger, Wallerstein Nutrient
Milk	E. coli and coliforms	Endo
Pharmaceuticals, WFI, raw materials and cosmetics	Enterococci, Enterococcus faecalis	Azide | KF Strep
	Enterococci, Enterococcus faecalis	Azide | KF Strep
	Pseudomonas aeruginosa	Cetrimide
	Total colony count	Caso, R2A
	Yeasts and molds, Candida albicans	Sabouraud
Soft drinks, concentrates	Acid-tolerant microorganisms, Lactic-acid bacteria	Orange Serum, Wallerstein Differential
	Enterobacteria, E. coli and coliforms	Endo
	Total colony count	TGE | Tryptone Glucose Extract, Total Count TTC
	Yeasts and molds	m Green yeast and mold | Schaufus Pottinger, m Green yeast and mold selective, Wallerstein Nutrient, Wort
Sugar, sugar products	E. coli and coliforms	Endo
	Total colony count	Total Count TTC
	Yeasts and molds	m Green yeast and mold | Schaufus Pottinger, m Green yeast and mold selective, Wort
Water (general quality), mineral water, natural water, waste water	Acid-tolerant microorganisms, Lactic-acid bacteria	Orange Serum
	Enterobacteria, E. coli and coliforms	Endo, m FC, Teepol | Lauryl Sulphate, Tergitol TTC
	Enterococci, Enterococcus faecalis	Azide | KF Strep
	Pseudomonas aeruginosa	Cetrimide
	Total colony count	Caso, R2A, TGE | Tryptone Glucose Extract
	Yeasts and molds, Candida albicans	Sabouraud
Wine	Acetobacter	Orange Serum (by adding 5 – 8% ethanol)
	Acid-tolerant microorganisms, Lactic-acid bacteria	Orange Serum, Wallerstein Differential
	Yeasts and molds	m Green yeast and mold | Schaufus Pottinger, Wallerstein Nutrient, Wort

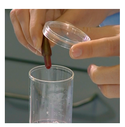
* These Biosart® 100 Media types are suitable for the determination of the mentioned microorganisms, although the media are not explicit declared in references.

Easy work flow – reliable results

1 | Pour the sample

2 | Apply vacuum and filter the sample

3 | Add the Biosart® 100 Nutrient Media



4 | Close the outlet

5 | Remove the funnel

6 | Incubate the petri dish

Remarks
The pictures show typical appearance of the mentioned microorganisms. In particular cases, color and shape of the colonies could vary from the expected habitus. Further tests may be necessary to validate the result.

Sartorius Stedim Biotech shall not be liable for consequential and | or incidental damage sustained by any customer from the use of its products.

Biosart® 100 Nutrient Media are subject to continuous product improvement as part of our product development program to align our products with changing application requirements. For current specifications and lot release criteria please visit our homepage under: www.sartorius-stedim.com/BiosartMediaSearch.

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