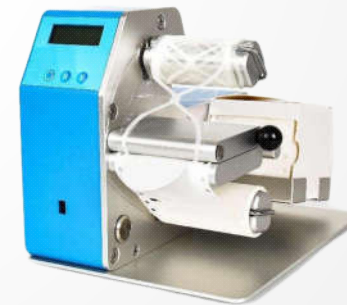
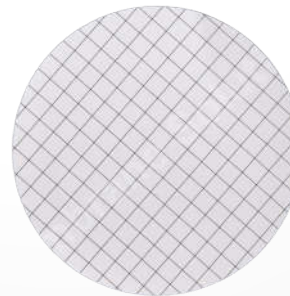




Membrane Solutions

Microbial Analysis Testing Range

Membrane Solutions



01

Gridded Membranes--Specification


 Membrane Solutions


Specification

Membrane	MCE/CN PES
Color/Grid Grid 3.1*3.1mm	White /Black , MFMCE047045GWSW White/Plain MFMCE047045S Black /White MFMCE047045GBS
Diameter (mm)	47/50/25/90
Pore Size (µm)	0.45/0.22/0.8/1.0/0.65
Sterilization	Gamma Ray
Pack	Individual Pack MFMCE047045GWSW
	Continuous Pack MFMCE047045CWM MFMCE047045CWT MFMCE047045CWP
	Available Pack with MS brand, Neutral, OEM

Please refer the complete Part Number in Catalog

01

Gridded Membranes--Features

Membrane Solutions

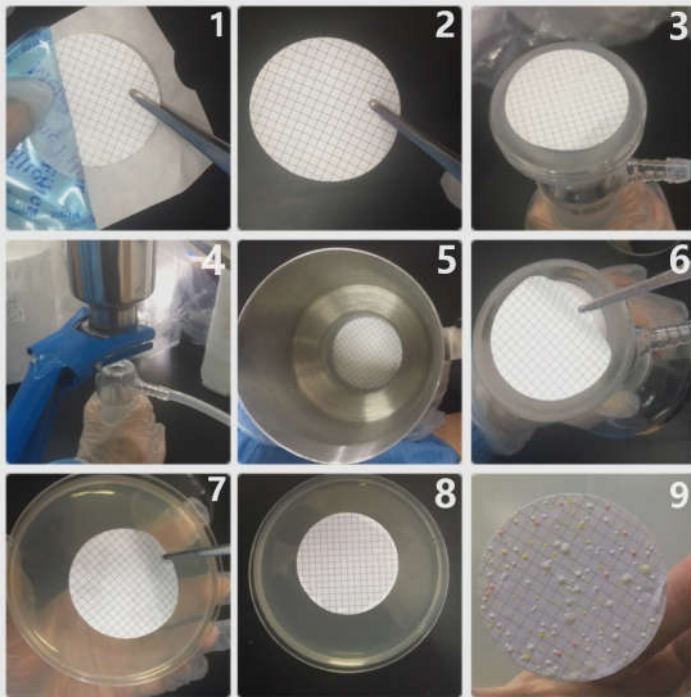


- Stable quality--assure productive testing result
- Excellent Performance
- High Cost-effective
- On-time Delivery
- Complete products range

01

Gridded Membranes--Application

Membrane Solutions



Sterility testing, gravimetric analysis, microbiological and particulate analysis, **Microbial Limit Testing**

Membrane Filtration Technique

Food Codex and Pharmacopeia in USA, Europe Union, Japan, Australia & New Zealand

- Accuracy
- Quantitative Result
- The membrane with colony could be preserved as testing result
- Avoid interfere from inhibitor

01

Gridded Membranes--Quality Control

Membrane Solutions

<p>Microfilm™ Membrane Filter 0.45um MCE Membrane Filter Part Number: MFAC3047045-0W5 Lot Number: 205220549 Expiry Date: 2025-02-14</p> <p>ISO 9001 Quality Standard The product was manufactured under Membrane Solutions Quality Management System and is approved by an accredited regulatory body to the ISO 9001 Quality System Standard.</p> <p>Good Manufacturing Practices The product was manufactured in a Membrane Solutions facility which adheres to FDA Device Good Manufacturing Practice standards.</p> <p>Non-Fiber Releasing The product was manufactured with a MCE membrane which meets the criteria for a non-fiber releasing filter as defined in 21 CFR 212.30050.</p>	<p>Criteria This manufacturing lot was sampled, tested and released by Quality Assurance to the following specifications.</p> <p>The Description of Membrane Filter The MCE Membrane Filters are 47 mm in diameter, White and grided.</p> <p>Thickness and Pore Size The thickness of samples is 0.320 mm and the pore size is 0.45 um.</p> <p>Membrane Bubble Point Samples were tested according to an established procedure to determine the water bubble point of the product. The test meets the established release criteria of 23.42.3 bar. Bubble point values are correlated to quantitative bacterial retention requirements as specified by the US Advanced Medical Technology Association (AAMI) and/or American Society for Testing Materials (ASTM) guidelines.</p> <p>Flow Rate Samples met a minimum flow rate of 0.22-05.01 mL/min at 25°C, 10psi.</p>	<p>Criteria This product was designed and manufactured to meet the following characteristics. These characteristics are confirmed by testing on an audit basis.</p> <p>Sterility Test No growth was observed when sterilized samples were subjected to the Seven Day Sterility Test as described by USP.</p> <p>Microbial Test Recovery of <i>E. coli</i> > 90% Recovery of <i>Saccharomyces</i> > 90%</p> <p>Tested By: [Signature] 08-05-2022 QC Technician</p>
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MCE Product Membrane Filter is a Registered Trademark of Membrane Solutions Corporation.
ISO is a Registered Trademark of the International Organization for Standardization.

MEMBRANE SOLUTIONS

- Meet ISO7704, E. coli recovery rate > 90%
Saccharomyces recovery rate > 90%
- Excellent Flow rate for different liquids
- Microbiological" friendly" ink promotes growth on grids to maximize recovery
- Pre-Steriled by Gamma Ray, Shelf life is 3 years
- Detailed Quality Certificate offered lot by lot assure stable quality

<p>Membrane Solutions</p> <p>Membrane Solutions Tel: +1-800-728-4872 Fax: +1-732-432-0040 E-mail: info@membrane-solutions.com www.membrane-solutions.com</p>	<p>CERTIFICATE OF QUALITY</p> <p>The purpose of this certificate is to provide precise information on the quality characteristics and acceptance criteria which support the high standards of quality and reliability built into Membrane Solutions products.</p> <p>We hereby certify that the product described within meets the following criteria.</p> <p>MCE Product Membrane Filter is a Registered Trademark of Membrane Solutions Corporation.</p> <p style="text-align: center;">MEMBRANE SOLUTIONS</p>	<p>CERTIFICATE OF QUALITY</p> <p>The purpose of this certificate is to provide precise information on the quality characteristics and acceptance criteria which support the high standards of quality and reliability built into Membrane Solutions products.</p> <p>We hereby certify that the product described within meets the following criteria.</p> <p style="text-align: center;">MEMBRANE SOLUTIONS</p>
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Quality Certificate



01

Gridded Membranes--Capacity

Membrane Solutions



Capacity: 140,000 pcs per day.

Delivery Time: 1-2 Weeks



01

Gridded Membranes--Comparison Testing

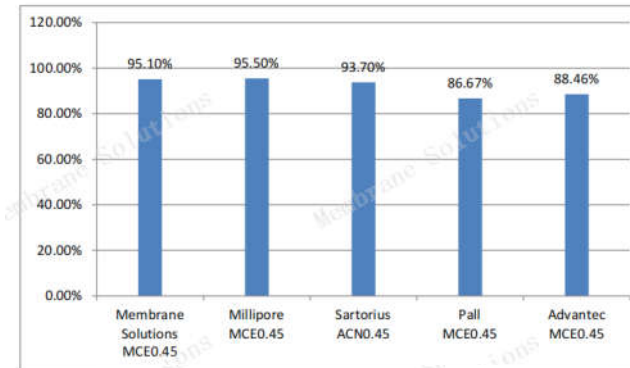
Membrane Solutions



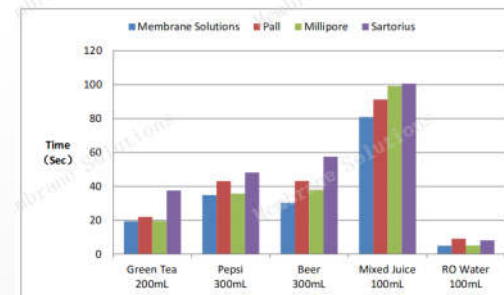
Membrane Solutions	Millipore	Sartorius	Pall	Whatman
MFMCE047022GWS	GSWG047S6	11407--47----ACN	/	10406970
MFMCE047045GWS	HAWG04700 HAWG04705 HAWG047S0 HAWG047S6	11406--47----ACN	66278 66068 66191 66020 66539	10407970 10406871 7141-104 7141-124
MFMCE047080GWS	AAWG04700 AAWG047S6			10408970
MFMCE050022GWS				10406972
MFMCE050045GWS	HAWG050S6		66539	10406873
MFMCE047022CWM	EZGSWG474	11407Z-47----SCM	68123	
MFMCE047045CWM	EZHAWG474	11406Z-47----SCM	68121	
MFMCE047080CWM	EZAAWG474		/	
MFMCE050022CWM		11407Z-50----SCM		
MFMCE050045CWM	EZHAWG504	11406Z-50----SCM		

	Membrane Solutions	Pall	Millipore	Sartorius	Advantec
Catalog Number	MFMCE047045GWS	63020	HAWG04700	11406--47----ACN	A045F047A

Percent Recovery of E.coli



Average Filtration Time For Different Solutions



Comparison Testing Report

Recovery Rate Comparison (the higher the better)

Microbiological Recovery Comparison using E.coli and Saccharomyces cerevisiae			
Sample	E.coli ATCC#11775 Percent Recovery (R)	Saccharomyces cerevisiae ATCC#7754 Percent Recovery (R)	Meets ISO7704 Requirements (R≥80%)
Membrane Solutions	95.1%	94%	Yes
Competitor A	92%	89%	Yes
Competitor B	90%	93%	Yes
Competitor C	79%	81%	No

Results and discussion

The requirements set forth by ISO 7704 have all been met. All MS filter products tested in this study achieved at least 90% recovery for the two organisms used: Escherichia coli and Saccharomyces cerevisiae.

Conclusion

Membrane Solutions Analytical Filter Units and Filter Funnels with MCE membranes pass the microbial recovery requirements set forth in ISO 7704. Their performance in this application makes them an excellent choice for use in water quality testing.

References

International Standard ISO 7704 - 1985 (E). Water Quality – Evaluation of membrane filters used for microbiological analyses.

International Organization for Standardization. First Edition – 1985-03-15.

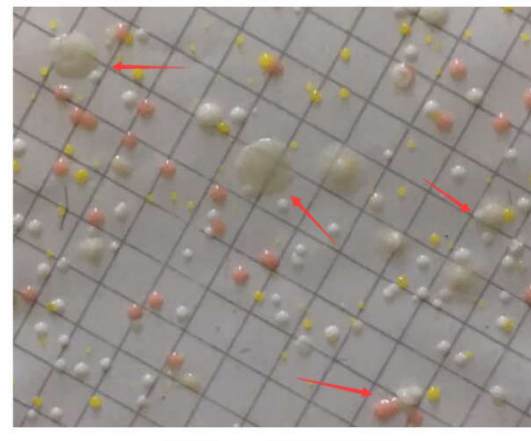
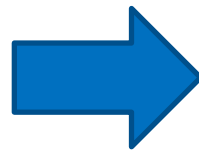
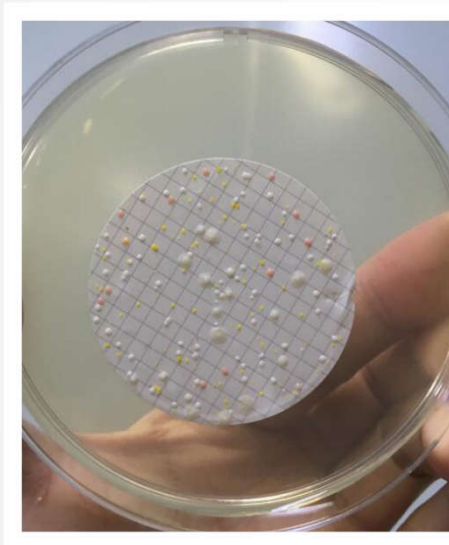
USP <1117> Microbiological Best Laboratory Practices. USP 35 or current edition. Official from May 1, 2012. © 2012 The United States Pharmacopeial Convention

01

Grid Membrane--Comparison Testing

Membrane Solutions

Excellent Performance of Grids



Membrane Solutions High Performance MCE membrane uses microbiological – “friendly” ink which promotes growth on grids to maximize recovery

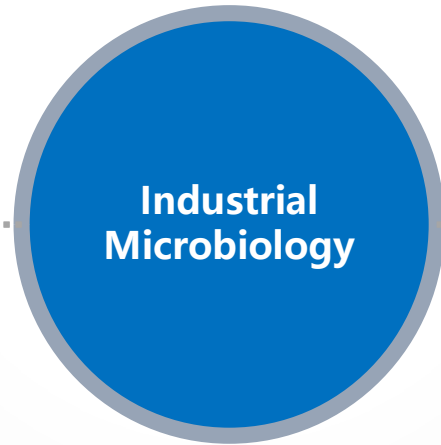


Food & Beverage (Large Quantity)

Bottled Water, Beverage, Juice,
Dairy, Wine, Beer, Food



Cosmetics



**Industrial
Microbiology**



Water Test (Large Quantity)

Environment Testing, Water works
Waste Water process



Pharmaceuticals

03

Customers

Membrane Solutions



Pepsi In Colombia



Nestlé In Mexico



Carlsberg in Kazakhstan



Coca Cola in Egypt



Fonti Prealpi in Italy



shiseido in Vietnam



Features

- Hands-free (no touch) sterile membrane dispensing
- Easy loading of sterile membrane roles
- Indicates number of used and remaining membranes
- High-speed dispensing , < 1 second
- Compact size and portable
- Operates with 110/220V or 18650 Battery(5 hours)

Competitors:



Microsart E-Motion



EZ-Pak Curve



EZ-Pak



Sentino

Cost-effective

Price of Continuous pack membranes higher than individual pack membranes

05

Other Products--BioSet Monitor

Membrane Solutions



Features:

- Compatible with VFMSM03
- Meet ISO7704, Excellent Microorganism retention rate
- High Throughput, High Flowrate
- Pre-sterilized by Gamma Ray, Shelf life 3 years
- Ergonomic, one-hand operation
- Saves time from workflow and self-contained unit avoid cross contamination



Compatible with:



Millipore:
EZFITLOHE1,
EZFITHIHE3
Pall :
4959, 4892
With No.8
Silicone Plug

Technical Specification

Filter Media	Mixed Cellulose Ester (MCE) or Polyether sulfone (PES)
Material	Filter cup: PS (100ml) /PP (300ml) Lid and base: PS
Pore Size	0.45µm, 0.22µm; 0.8µm 3µm, 5µm etc
Diameter of Membrane	47mm
Volume of Filter Cup	100ml, 300ml
Bacteria Recovery rate, <i>E-coli</i>	>80%, meets ISO7704
Typical Water Flow Rate	0.45 µ m, 0.7 bar (70 kPa, 10 psi) : >35mL/min/cm ²
Sterility	Irradiation sterilization for Food & Beverage grade Ethylene Oxide for medical grade

06

Other Products-- Manifolds

Membrane Solutions

Features:

- Manifold, 1,3,6
- Funnel: 100/300/500ml SLS/Glass
- For use 47/50mm Membrane



Competitors



Sartorius



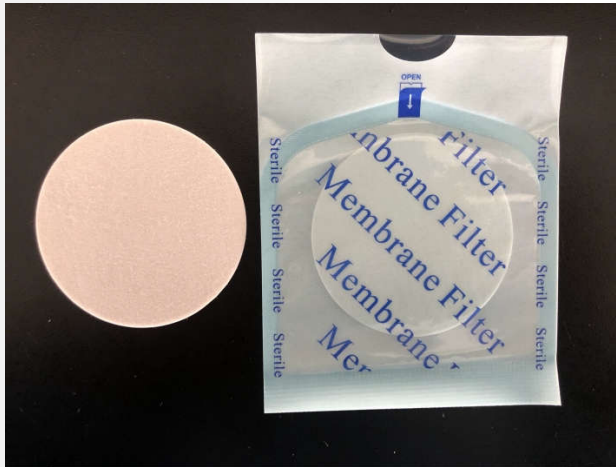
Millipore

Replaceable: VFM0103S, VFM0203S, VFMSM03

07

Absorbent Pad

Membrane Solutions



Features:

- Available in sterile pack or non-sterile
- Available pack with Gridded Membranes
- Pure cellulose pad will not inhibit any bacterial growth
- Consistent thickness and bed volume
- Customized diameter is available
- Available with individual pre-sterilized pack
- Match common size of Petri-dishes