

MicroFunnel™ Filter Funnel

Instructions for Use

Introduction

Important

Read these instructions carefully before using the products.

Intended use

The products are intended for research use only, and shall not be used in any clinical or *in vitro* procedures for diagnostic purposes.

Background

Description

MicroFunnel™ Filter Funnel is a disposable filter unit designed to recover and culture microorganisms from purified water systems, aqueous fluids, or solids that will completely dissolve in buffer solutions. The flexible cylinder design allows easy access to retrieve the membrane filter for submersion in broth media or plating onto an agar surface.

Features

- Disposable, ready to use filter funnel suitable for water system monitoring, bioburden testing, or sterility testing.
- Individually bagged for added assurance of protection until the time of use.
- Meets pharmacopoeial requirements for membrane filtration testing applications.

Membranes

ME25: A 0.45 µm mixed cellulose ester membrane used in the Membrane Filter (MF) technique for the determination of total coliforms, *E. coli*, yeast, mold, *Streptococcal* strains, and total bacterial contamination.

Supor™ membrane: A 0.2 µm or 0.45 µm polyethersulfone membrane ideal for low binding of antibiotics or other inhibitory substances.

Metrical™ black membrane: A 0.45 µm or 0.8 µm modified polyethersulfone membrane used with the MF Technique to provide better contrast to light colored colonies of bacteria, yeast, and mold.

Polycarbonate membrane: A 0.4 µm polycarbonate track-etched (PC TEM) filter with smooth surface suitable for *Legionella*, eDNA, or other concentrate and elute applications.

Technical information

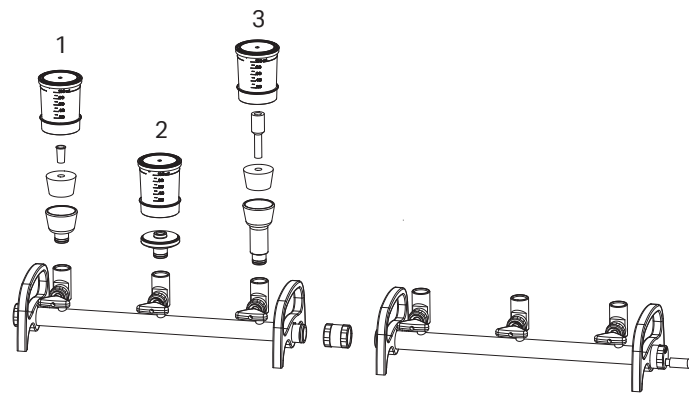
Technical data

Support pad:	Cellulose
Funnel base, LP Petri dish base:	Polypropylene
Funnel cover:	Polystyrene
Plug:	Polyethylene
Funnel adapter:	Polyethylene (not autoclavable)
Membrane diameter:	47 mm (1.9 inch)
Filter media:	<ul style="list-style-type: none"> • ME25 (mixed cellulose esters) membrane, white • GN6 (mixed cellulose esters) membrane, white • Supor (polyethersulfone) membrane, white • Metrical Black (modified polyethersulfone) membrane, black • Polycarbonate track-etched membrane, opaque white
Maximum vacuum:	635 mm Hg (25 in. Hg) (Vacuum Use Only)
Effective filtration area:	13.46 cm ²
Dimensions (L×W):	100 mL <ul style="list-style-type: none"> • 8.1 × 6.4 cm (3.2 × 2.5 inch) with lid kit • 7.6 × 6.1 cm (3.0 × 2.4 inch) with cover 300 mL <ul style="list-style-type: none"> • 9.1 × 8.8 cm (3.6 × 3.5 inch) with cover
Gamma irradiation information:	Validated Dosage
Sterilization	Gamma irradiated

Instructions for Use

Filter the sample

Step	Action
1	Remove the filter unit from the bag. Place the filter unit onto the manifold with the applicable adapter assembly as shown below.



Option	Adapter assembly
1	Standard adapter with no. 8 stopper
2	MicroFunnel adapter
3	Elongated adapter with no.8 stopper and auto-clavable adapter

2	Remove the funnel cover without touching the inner surface. Rinse the inside walls of the funnel and wet out the membrane surface (Optional). Replace the cover and turn on the vacuum pump to draw rinse fluid through. Turn off the vacuum pump.
3	Remove the funnel cover without touching the inner surface and pour the sample into the funnel. Replace the cover.
4	Turn on the vacuum pump for 30 to 40 seconds and draw the sample through the filter. Filter the entire sample first, then rinse the inside walls of the funnel with sterile buffer. Turn off the vacuum pump.

Culture the sample

There are three methods to culture a sample:

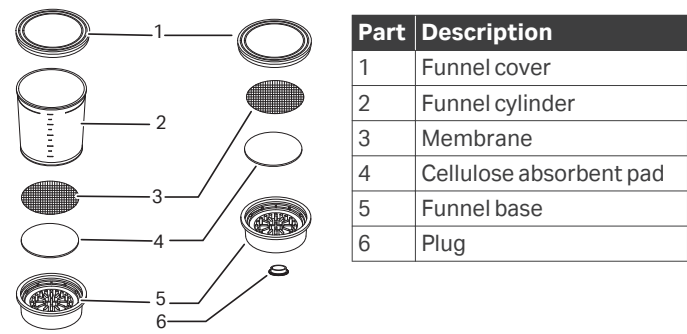
- Method A: Culture the samples on the base of the funnel converted into a Petri dish.
- Method B: Remove the membrane and culture the samples on an agar plate or submerge the filter in the broth media.
- Method C: Remove the membrane and culture the samples on a separate lid kit (for 4810ME and 4810).

Note: *Culturing methods are not applicable to polycarbonate track-etched membrane.*

Note: *MicroFunnel 300 mL capacity filter units cannot convert to a Petri dish and must be cultured using Method B.*

Method A

The illustration below shows the parts of a Petri dish conversion for 100 mL funnels.



Part	Description
1	Funnel cover
2	Funnel cylinder
3	Membrane
4	Cellulose absorbent pad
5	Funnel base
6	Plug

Follow the steps below to culture a sample in a converted Petri dish:

Step	Action
1	Twist the ampoule media of choice to open and discard the cap.
2	Remove the cover from the filter unit and gently squeeze the ampoule to dispense the medium evenly onto the membrane surface. Avoid excessive splashing to minimize the loss of the media onto the inside of the funnel cylinder.
3	Apply vacuum briefly to absorb the medium into the absorbent pad. Avoid the loss of the fluid volume.
4	Turn off the vacuum pump, and replace the cover back onto the filter unit.
5	Convert the funnel into a Petri dish: <ul style="list-style-type: none">a. Remove the filter unit from the manifold, and cap the media port with the supplied plug.b. Remove the cover and squeeze the funnel gently to separate the cylinder from the base.c. Disengage the cylinder, and transfer the cover to the base.d. Discard the funnel cylinder.
6	Transfer the Petri dish to an incubator, and incubate the Petri dish inverted at the specified temperature and time.
7	Count the colonies using your standard procedure.
8	Discard the Petri dish following national and local guidelines for disposal of biohazardous material.

Method B

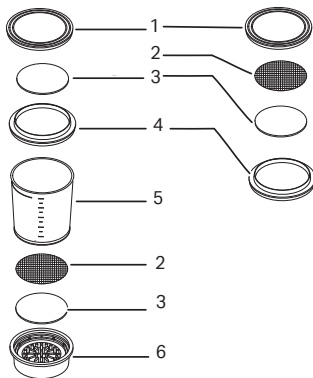
Follow the steps below to remove a membrane and culture the sample on an agar plate.

Step	Action
1	Hold the filter unit with one hand and gently squeeze the funnel cylinder near the top with the other hand.
2	Remove the funnel cylinder carefully from the base.
3	Dip the tips of a stainless steel forceps into alcohol and flame to sterilize. Allow to cool before handling the membrane.
4	Insert the sterilized forceps and remove the membrane from the base leaving behind the support pad.

Step	Action
5	Place the membrane filter on a prepared agar plate or Petri dish/absorbent pad combination soaked with broth or submerge filter in broth media.
6	Follow the steps 6 to 8 from Method A.

Method C

The illustration below shows the parts of a filter unit with a separate lid kit (4810ME, 4810).



Part	Description
1	Funnel Cover
2	Membrane
3	Cellulose absorbent pad
4	Lid kit base
5	Funnel cylinder
6	Funnel base

Follow the steps below to remove a membrane and culture the sample on a separate lid kit.

Step	Action
1	Remove the lid kit (see parts 1, 3, 4 in the image above) from the top of the funnel and prepare by aseptically dispensing 2 mL broth ampoule media onto the dry absorbent pad. Set aside for use after the filtration.
2	Hold the filter unit with one hand and gently squeeze the funnel near the top with the other hand. Carefully remove the funnel cylinder from the base.
3	Dip the tips of a stainless steel forceps into alcohol and flame to sterilize.
4	Insert the sterilized forceps and remove the membrane from the base leaving behind the support pad.
5	Place the membrane filter on the broth-soaked pad in lid kit Petri dish prepared in step 1. <i>Result:</i> The lid kit is now a Petri dish.
6	Follow steps 6-8 from Method A.

Culture Coliforms

Method A of culturing is not recommended to culture coliforms using MF-Endo Broth ampoule media. To obtain a maximum sheen production, remove the membrane to a broth-soaked pad or agar MF-Endo medium as described in Method B.

Ordering Information

Product code	Description ¹	Qty./Pk.
4800ME	ME25 mce membrane, white gridded, 0.45 µm 100 mL, individually bagged	50
4801ME	ME25 mce membrane, white gridded, 0.45 µm 100 mL	50
4804ME	ME25 mce membrane, white gridded, 0.45 µm 100 mL, individually bagged	200
4810ME ²	ME25 mce membrane, white gridded, 0.45 µm 100 mL, individually bagged	50
4815ME	ME25 mce membrane, white gridded, 0.45 µm 300 mL, individually bagged	20
4800	GN6 mce membrane, white gridded, 0.45 µm, 100 mL, individually bagged	50
4801	GN6 mce membrane, white gridded, 0.45 µm, 100 mL	50
4804	GN6 mce membrane, white gridded, 0.45 µm, 100 mL, individually bagged	200
4810 ²	GN6 mce membrane, white gridded, 0.45 µm, 100 mL, individually bagged	50
4815	GN6 mce membrane, white gridded, 0.45 µm, 300 mL, individually bagged	20
4803	Supor pes membrane, white gridded, 0.2 µm, 100 mL, individually bagged	50
4806	Supor pes membrane, white plain, 0.2 µm, 100 mL, individually bagged	50
4818	Supor pes membrane, white gridded, 0.2 µm, 300 mL, individually bagged	20
4852	Supor pes membrane, white gridded, 0.45 µm, 100 mL, individually bagged	50
4828	Supor pes membrane, white gridded, 0.45 µm, 300 mL, individually bagged	20
4805	Metrical Black pes membrane, white gridded, 0.45 µm, 100 mL, individually bagged	50
4817	Metrical Black pes membrane, black gridded, 0.45 µm, 300 mL, Individually bagged	20
4819	Metrical Black pes membrane, black gridded, 0.8 µm, 300 mL, Individually bagged	20
FMFNL1050	Polycarbonate membrane, plain, 0.4 µm, 100 mL, Individually bagged	50
FMFNL3020	Polycarbonate membrane, plain, 0.4 µm, 300 mL, Individually bagged	20

¹ All products below are gamma irradiated.

² MicroFunnel filter funnel with lid kit

Related products

Product code	Description	Qty./Pkg.
4889	Place Manifold (quantity 3), including valves (quantity 3), end cap (quantity 1), and hose barb cap (quantity 1)	1 set
4701	Autoclavable funnel adapter	3
82728	No. 8 Rubber stopper	1
4890	MicroFunnel filter funnel adapter	3
4892	Standard adapter	3
4959	Elongated standard adapter	3

For ordering information, visit [cytiva.com](https://www.cytiva.com).



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