

## About Hawach Scientific

Hawach is a modern enterprise, contains well integration of R&D, production, sales and after -sales service. Hawach located at Xi'an High-Tech development Zone, which is one of the five national level High-Tech development Zones with plant covers a production workshop area of 8000 m<sup>2</sup>, with 4000 m<sup>2</sup> of clean room. We have International advanced level of production lines to produce microporous Membrane, Syringe Filter, Sample Vials, Septa and Caps, along with Filter Paper, Vacuum Pumps and manifolds.

Hawach never stop upgrading our technique, corporate with many famous universities including Northwestern Polytechnical Universities, Xi'an University of Technology, and Shaanxi University of Science and Technology. Hawach has established laboratory analysis institute, research and development center.

In Hawach Scientific, quality always comes first, in the very beginning, Hawach started to learn world advanced production technology and experience, especially quality control testing laboratory. We have ultraviolet absorption detector (UVD), liquid chromatograph, integrity tester, flow rate tester, dielectric strength tester, heating plate, laser particle counter etc. After production, all articles are delivered to QC center, only qualified products can be to the next procedure.

Today, we are happy to see our products exported to the United States, Korea, UK, Germany, Dubai, Israel and Mexico. The quality and service of our products receive consistent approval from customers.

Hawach's philosophy is "always high demand, cooperation make success", Hawach Scientific's mission is "one-stop laboratory solution", By joint efforts of Hawach's employee, business partners and customers, we believe Hawach can be a leader of laboratory industry.



## Membrane Filter

Hawach Scientific membrane filters are a thin, polymeric film made up of millions of microscopic pores. Membrane retain particles and microorganisms that exceed their pore ratings by acting as a physical barrier and capturing such particles on the surface of the membrane.

Membrane Disc Filters are pre-cut membrane filters which produced using the highest quality manufacturing standards and optimized to increase efficiency, reduce cost, and expand the capabilities of your laboratory-scale applications. It gives consistent and reliable results that optimized for HPLC media preparation, pharmaceuticals and cold sterilization.

We offer different kinds of membranes according to customers application needs which are available in variety of polymers, pore sizes, diameters and surface types. Most membranes can be sterilized by autoclave or non-sterile. Besides, customize is also available.



### Selecting Right Membrane Filter

1. Clearly define your application requirements
2. Choose a compatible membrane
3. Select the most effective and efficient pore size

### Selecting Membranes for Your Applications

1. Determine the particle size to be retained or filtered. Membrane will retain all particles equal to and larger than their designated pore size.
2. Assess the chemical compatibility of the membrane filter with the liquid or gas to be filtered. Consider the chemical resistance properties of all parts that will contact the filter.
3. Consider hydrophilic or hydrophobic membrane; temperature, flow rate, throughput, and sterilization needs.

| Filter Media   | Diameter  | Micron Rating   |
|--|---|---|
| Nylon<br>PTFE<br>PES<br>PVDF<br>MCE<br>CA<br>Glass Fiber<br>PP | 13mm<br>25mm<br>47mm<br>50mm<br>60mm<br>90mm<br>100mm<br>106mm<br>142mm<br>250mm<br>293mm | 0.1um<br>0.22um<br>0.45um<br>0.8um<br>1.0um<br>3.0um<br>5.0um<br>10.0um |

**\*Nylon66/Polyamide (NY)**

Hydrophilic membrane. Resistant to a range of organic solvents. Suitable for use with high pH samples. Binds proteins, which makes it unsuitable for protein recovery applications.

**\* Polytetrafluoroethylene (PTFE)**

Hydrophobic membrane. Resistant to organic solvents as well as strong acids and bases. Low protein binding. Low in extractables. Main applications are the filtration of non-aqueous samples. Prior to filtering of aqueous samples the membrane must be pre-wetted with a water-miscible organic solvent.

**\* Hydrophilic Polytetrafluoroethylene (PTFE L)**

Hydrophilic PTFE membranes are unsupported membrane that ideal for HPLC and mixtures of aqueous and organic solvents. Use with both aqueous and organic solvents, along with their mixtures.

**\* Polytetrafluoroethylene ( PES )**

Hydrophilic membrane. Broad solvent compatibility. Suitable for filtration of aqueous and compatible organic solvents. Higher liquid flow than either PTFE or PVDF. Low in extractables. Low protein binding.

**\* Cellulose acetate (CA)**

Hydrophilic membrane. Limited solvent resistance. Very low protein binding capacity, which makes it an excellent choice for protein recovery applications.

**\* Polyvinylidene difluoride (PVDF)**

Hydrophobic membrane. Fast flow rate and very low protein binding. Generally compatible with most common solvents. Ideal for protein recovery applications.

**\* Mixed Cellulose Esters (MCE)**

Hydrophilic MCE membranes. Biologically inert mixture of Cellulose Acetate and Cellulose Nitrate membranes which have higher protein binding than CA for most proteins. High porosity provides high flow rate. Good use for aqueous based samples.

**\* Glass microfiber/glass fiber (GMF/GF)**

Hydrophilic material. Excellent compatibility with organic solvents and strong acids (apart from hydrofluoric acid) and bases. Either used as a prefilter or as a final filter.

**\*Glass microfiber/ glass fiber without binder**

(1.6um, 1.0um, 1.2um, 2.7um, 1.5um, 0.7um )

- ✓ AGF/A: 1.6(μm), Thickness: 0.3mm, Basis weight: 55g/m<sup>2</sup>
- ✓ AGF/B: 1.0(μm), Thickness: 0.65mm, Basis weight:140g/m<sup>2</sup>
- ✓ AGF/C: 1.2(μm), Thickness: 0.28mm, Basis weight: 50g/m<sup>2</sup>
- ✓ AGF/D: 2.7 (μm), Thickness: 0.6 mm, Basis weight: 120g/m<sup>2</sup>
- ✓ AGF/E: 1.5 (μm), Thickness: 0.35 mm, Basis weight: 70g/m<sup>2</sup>
- ✓ AGF/F: 0.7 (μm), Thickness: 0.4 mm, Basis weight: 80g/m<sup>2</sup>

**\* Polypropylene (PP)**

Slightly hydrophobic membrane. Resistant to a wide range of organic solvents. Also good choice used as a prefilter or as a final filter.

## Order Information

| Description                      | um   | Φ mm | Part No.   | Pcs/pk |
|----------------------------------|------|------|------------|--------|
| Nylon Membrane Disc, non-sterile | 0.1  | 13   | MLNY13010  | 400    |
|                                  | 0.1  | 25   | MLNY25010  | 400    |
|                                  | 0.1  | 47   | MLNY47010  | 100    |
|                                  | 0.1  | 90   | MLNY90010  | 50     |
|                                  | 0.1  | 142  | MLNY142010 | 25     |
|                                  | 0.1  | 293  | MLNY293010 | 25     |
| Nylon Membrane Disc, non-sterile | 0.22 | 13   | MLNY13022  | 400    |
|                                  | 0.22 | 25   | MLNY25022  | 400    |
|                                  | 0.22 | 47   | MLNY47022  | 100    |
|                                  | 0.22 | 90   | MLNY90022  | 50     |
|                                  | 0.22 | 142  | MLNY142022 | 25     |
|                                  | 0.22 | 293  | MLNY293022 | 25     |
| Nylon Membrane Disc, non-sterile | 0.45 | 13   | MLNY13045  | 400    |
|                                  | 0.45 | 25   | MLNY25045  | 400    |
|                                  | 0.45 | 47   | MLNY47045  | 100    |
|                                  | 0.45 | 90   | MLNY90045  | 50     |
|                                  | 0.45 | 142  | MLNY142045 | 25     |
|                                  | 0.45 | 293  | MLNY293045 | 25     |
| Nylon Membrane Disc, non-sterile | 0.8  | 13   | MLNY13080  | 400    |
|                                  | 0.8  | 25   | MLNY25080  | 400    |
|                                  | 0.8  | 47   | MLNY47080  | 100    |

|   |      |     |             |     |
|---|------|-----|-------------|-----|
|   | 0.8  | 90  | MLNY90080   | 50  |
|   | 0.8  | 142 | MLNY142080  | 25  |
|   | 0.8  | 293 | MLNY293080  | 25  |
| Nylon Membrane Disc, non-sterile            | 1.0  | 13  | MLNY13100   | 400 |
|   | 1.0  | 25  | MLNY25100   | 400 |
|   | 1.0  | 47  | MLNY47100   | 100 |
|   | 1.0  | 90  | MLNY90100   | 50  |
|   | 1.0  | 142 | MLNY142100  | 25  |
|   | 1.0  | 293 | MLNY293100  | 25  |
| Nylon Membrane Disc, non-sterile            | 3.0  | 13  | MLNY13300   | 400 |
|   | 3.0  | 25  | MLNY25300   | 400 |
|   | 3.0  | 47  | MLNY47300   | 100 |
|   | 3.0  | 90  | MLNY90300   | 50  |
|   | 3.0  | 142 | MLNY142300  | 25  |
|   | 3.0  | 293 | MLNY293300  | 25  |
| Nylon Membrane Disc, non-sterile            | 5.0  | 13  | MLNY13500   | 400 |
|   | 5.0  | 25  | MLNY25500   | 400 |
|   | 5.0  | 47  | MLNY47500   | 100 |
|   | 5.0  | 90  | MLNY90500   | 50  |
|   | 5.0  | 142 | MLNY142500  | 25  |
|   | 5.0  | 293 | MLNY293500  | 25  |
| Nylon Membrane Disc, non-sterile            | 10.0 | 13  | MLNY131000  | 400 |
|   | 10.0 | 25  | MLNY251000  | 400 |
|   | 10.0 | 47  | MLNY471000  | 100 |
|   | 10.0 | 90  | MLNY901000  | 50  |
|   | 10.0 | 142 | MLNY1421000 | 25  |
|   | 10.0 | 293 | MLNY2931000 | 25  |
| Hydrophobic PTFE Membrane Disc, non-sterile | 0.1  | 13  | MLPT13010   | 400 |
|   | 0.1  | 25  | MLPT25010   | 400 |
|   | 0.1  | 47  | MLPT47010   | 100 |
|   | 0.1  | 90  | MLPT90010   | 50  |
|   | 0.1  | 142 | MLPT142010  | 25  |
|   | 0.1  | 293 | MLPT293010  | 25  |
| Hydrophobic PTFE Membrane Disc, non-sterile | 0.22 | 13  | MLPT13022   | 400 |
|   | 0.22 | 25  | MLPT25022   | 400 |
|   | 0.22 | 47  | MLPT47022   | 100 |
|   | 0.22 | 90  | MLPT90022   | 50  |
|   | 0.22 | 142 | MLPT142022  | 25  |
|   | 0.22 | 293 | MLPT293022  | 25  |
| Hydrophobic PTFE Membrane Disc, non-sterile | 0.45 | 13  | MLPT13045   | 400 |
|   | 0.45 | 25  | MLPT25045   | 400 |
|   | 0.45 | 47  | MLPT47045   | 100 |

|   |      |     |             |     |
|---|------|-----|-------------|-----|
|   | 0.45 | 90  | MLPT90045   | 50  |
|   | 0.45 | 142 | MLPT142045  | 25  |
|   | 0.45 | 293 | MLPT293045  | 25  |
| Hydrophobic PTFE Membrane Disc, non-sterile   | 1.0  | 13  | MLPT13100   | 400 |
|   | 1.0  | 25  | MLPT25100   | 400 |
|   | 1.0  | 47  | MLPT47100   | 100 |
|   | 1.0  | 90  | MLPT90100   | 50  |
|   | 1.0  | 142 | MLPT142100  | 25  |
|   | 1.0  | 293 | MLPT293100  | 25  |
| Hydrophobic PTFE Membrane Disc, non-sterile   | 3.0  | 13  | MLPT13300   | 400 |
|   | 3.0  | 25  | MLPT25300   | 400 |
|   | 3.0  | 47  | MLPT47300   | 100 |
|   | 3.0  | 90  | MLPT90300   | 50  |
|   | 3.0  | 142 | MLPT142300  | 25  |
|   | 3.0  | 293 | MLPT293300  | 25  |
| Hydrophobic PTFE Membrane Disc, non-sterile   | 5.0  | 13  | MLPT13500   | 400 |
|   | 5.0  | 25  | MLPT25500   | 400 |
|   | 5.0  | 47  | MLPT47500   | 100 |
|   | 5.0  | 90  | MLPT90500   | 50  |
|   | 5.0  | 142 | MLPT142500  | 25  |
|   | 5.0  | 293 | MLPT293500  | 25  |
| Hydrophobic PTFE Membrane Disc, non-sterile   | 10.0 | 13  | MLPT131000  | 400 |
|   | 10.0 | 25  | MLPT251000  | 400 |
|   | 10.0 | 47  | MLPT471000  | 100 |
|   | 10.0 | 90  | MLPT901000  | 50  |
|   | 10.0 | 142 | MLPT1421000 | 25  |
|   | 10.0 | 293 | MLPT2931000 | 25  |
| Hydrophilic PTFE Membrane Disc, non-sterile<br>(unsupported & supported both available) | 0.22 | 13  | MLPT13022L  | 400 |
|   | 0.22 | 25  | MLPT25022L  | 400 |
|   | 0.22 | 47  | MLPT47022L  | 100 |
|   | 0.22 | 90  | MLPT90022L  | 50  |
|   | 0.22 | 142 | MLPT142022L | 25  |
|   | 0.22 | 293 | MLPT293022L | 25  |
| Hydrophilic PTFE Membrane Disc, non-sterile<br>(unsupported & supported both available) | 0.45 | 13  | MLPT13045L  | 400 |
|   | 0.45 | 25  | MLPT25045L  | 400 |
|   | 0.45 | 47  | MLPT47045L  | 100 |
|   | 0.45 | 90  | MLPT90045L  | 50  |
|   | 0.45 | 142 | MLPT142045L | 25  |
|   | 0.45 | 293 | MLPT293045L | 25  |
| PES Membrane Disc, non-sterile  | 0.1  | 13  | MLPES13010  | 400 |
|   | 0.1  | 25  | MLPES25010  | 400 |
|   | 0.1  | 47  | MLPES47010  | 100 |

|                                |      |     |             |     |
|--------------------------------|------|-----|-------------|-----|
|                                | 0.1  | 90  | MLPES90010  | 50  |
|                                | 0.1  | 142 | MLPES142010 | 25  |
|                                | 0.1  | 293 | MLPES293010 | 25  |
| PES Membrane Disc, non-sterile | 0.22 | 13  | MLPES13022  | 400 |
|                                | 0.22 | 25  | MLPES25022  | 400 |
|                                | 0.22 | 47  | MLPES47022  | 100 |
|                                | 0.22 | 90  | MLPES90022  | 50  |
|                                | 0.22 | 142 | MLPES142022 | 25  |
|                                | 0.22 | 293 | MLPES293022 | 25  |
| PES Membrane Disc, non-sterile | 0.45 | 13  | MLPES13045  | 200 |
|                                | 0.45 | 25  | MLPES25045  | 100 |
|                                | 0.45 | 47  | MLPES47045  | 100 |
|                                | 0.45 | 90  | MLPES90045  | 50  |
|                                | 0.45 | 142 | MLPES142045 | 25  |
|                                | 0.45 | 293 | MLPES293045 | 25  |
| PES Membrane Disc, non-sterile | 0.65 | 13  | MLPES13065  | 400 |
|                                | 0.65 | 25  | MLPES25065  | 400 |
|                                | 0.65 | 47  | MLPES47065  | 100 |
|                                | 0.65 | 90  | MLPES90065  | 50  |
|                                | 0.65 | 142 | MLPES142065 | 25  |
|                                | 0.65 | 293 | MLPES293065 | 25  |
| PES Membrane Disc, non-sterile | 0.8  | 13  | MLPES13080  | 400 |
|                                | 0.8  | 25  | MLPES25080  | 400 |
|                                | 0.8  | 47  | MLPES47080  | 100 |
|                                | 0.8  | 90  | MLPES90080  | 50  |
|                                | 0.8  | 142 | MLPES142080 | 25  |
|                                | 0.8  | 293 | MLPES293080 | 25  |
| PES Membrane Disc, non-sterile | 1.2  | 13  | MLPES13120  | 400 |
|                                | 1.2  | 25  | MLPES25120  | 400 |
|                                | 1.2  | 47  | MLPES47120  | 100 |
|                                | 1.2  | 90  | MLPES90120  | 50  |
|                                | 1.2  | 142 | MLPES142120 | 25  |
|                                | 1.2  | 293 | MLPES293120 | 25  |
| CA Membrane Disc, non-sterile  | 0.1  | 13  | MLCA13010   | 400 |
|                                | 0.1  | 25  | MLCA25010   | 400 |
|                                | 0.1  | 47  | MLCA47010   | 100 |
|                                | 0.1  | 90  | MLCA90010   | 50  |
|                                | 0.1  | 142 | MLCA142010  | 25  |
|                                | 0.1  | 293 | MLCA293010  | 25  |
| CA Membrane Disc, non-sterile  | 0.22 | 13  | MLCA13022   | 400 |
|                                | 0.22 | 25  | MLCA25022   | 400 |
|                                | 0.22 | 47  | MLCA47022   | 100 |

|                                 |      |     |            |     |
|---------------------------------|------|-----|------------|-----|
|                                 | 0.22 | 90  | MLCA90022  | 50  |
|                                 | 0.22 | 142 | MLCA142022 | 25  |
|                                 | 0.22 | 293 | MLCA293022 | 25  |
| CA Membrane Disc, non-sterile   | 0.45 | 13  | MLCA13045  | 400 |
|                                 | 0.45 | 25  | MLCA25045  | 400 |
|                                 | 0.45 | 47  | MLCA47045  | 100 |
|                                 | 0.45 | 90  | MLCA90045  | 50  |
|                                 | 0.45 | 142 | MLCA142045 | 25  |
|                                 | 0.45 | 293 | MLCA293045 | 25  |
| CA Membrane Disc, non-sterile   | 0.8  | 13  | MLCA13080  | 400 |
|                                 | 0.8  | 25  | MLCA25080  | 400 |
|                                 | 0.8  | 47  | MLCA47080  | 100 |
|                                 | 0.8  | 90  | MLCA90080  | 50  |
|                                 | 0.8  | 142 | MLCA142080 | 25  |
|                                 | 0.8  | 293 | MLCA293080 | 25  |
| CA Membrane Disc, non-sterile   | 1.0  | 13  | MLCA13100  | 400 |
|                                 | 1.0  | 25  | MLCA25100  | 400 |
|                                 | 1.0  | 47  | MLCA47100  | 100 |
|                                 | 1.0  | 90  | MLCA90100  | 50  |
|                                 | 1.0  | 142 | MLCA142100 | 25  |
|                                 | 1.0  | 293 | MLCA293100 | 25  |
| CA Membrane Disc, non-sterile   | 3.0  | 13  | MLCA13300  | 400 |
|                                 | 3.0  | 25  | MLCA25300  | 400 |
|                                 | 3.0  | 47  | MLCA47300  | 100 |
|                                 | 3.0  | 90  | MLCA90300  | 50  |
|                                 | 3.0  | 142 | MLCA142300 | 25  |
|                                 | 3.0  | 293 | MLCA293300 | 25  |
| CA Membrane Disc, non-sterile   | 5.0  | 13  | MLCA13500  | 400 |
|                                 | 5.0  | 25  | MLCA25500  | 400 |
|                                 | 5.0  | 47  | MLCA47500  | 100 |
|                                 | 5.0  | 90  | MLCA90500  | 50  |
|                                 | 5.0  | 142 | MLCA142500 | 25  |
|                                 | 5.0  | 293 | MLCA293500 | 25  |
| PVDF Membrane Disc, non-sterile | 0.1  | 13  | MLPV13010  | 400 |
|                                 | 0.1  | 25  | MLPV25010  | 400 |
|                                 | 0.1  | 47  | MLPV47010  | 100 |
|                                 | 0.1  | 90  | MLPV90010  | 50  |
|                                 | 0.1  | 142 | MLPV142010 | 25  |
|                                 | 0.1  | 293 | MLPV293010 | 25  |
| PVDF Membrane Disc, non-sterile | 0.22 | 13  | MLPV13022  | 400 |
|                                 | 0.22 | 25  | MLPV25022  | 400 |
|                                 | 0.22 | 47  | MLPV47022  | 100 |



|                                 |      |     |             |     |
|---------------------------------|------|-----|-------------|-----|
|                                 | 0.22 | 90  | MLPV90022   | 50  |
|                                 | 0.22 | 142 | MLPV142022  | 25  |
|                                 | 0.22 | 293 | MLPV293022  | 25  |
| PVDF Membrane Disc, non-sterile | 0.45 | 13  | MLPV13045   | 400 |
|                                 | 0.45 | 25  | MLPV25045   | 400 |
|                                 | 0.45 | 47  | MLPV47045   | 100 |
|                                 | 0.45 | 90  | MLPV90045   | 50  |
|                                 | 0.45 | 142 | MLPV142045  | 25  |
|                                 | 0.45 | 293 | MLPV293045  | 25  |
| PVDF Membrane Disc, non-sterile | 0.65 | 13  | MLPV13065   | 400 |
|                                 | 0.65 | 25  | MLPV25065   | 400 |
|                                 | 0.65 | 47  | MLPV47065   | 100 |
|                                 | 0.65 | 90  | MLPV90065   | 50  |
|                                 | 0.65 | 142 | MLPV142065  | 25  |
|                                 | 0.65 | 293 | MLPV293065  | 25  |
| PVDF Membrane Disc, non-sterile | 1.0  | 13  | MLPV13100   | 400 |
|                                 | 1.0  | 25  | MLPV25100   | 400 |
|                                 | 1.0  | 47  | MLPV47100   | 100 |
|                                 | 1.0  | 90  | MLPV90100   | 50  |
|                                 | 1.0  | 142 | MLPV142100  | 25  |
|                                 | 1.0  | 293 | MLPV293100  | 25  |
| PVDF Membrane Disc, non-sterile | 3.0  | 13  | MLPV13300   | 400 |
|                                 | 3.0  | 25  | MLPV25300   | 400 |
|                                 | 3.0  | 47  | MLPV47300   | 100 |
|                                 | 3.0  | 90  | MLPV90300   | 50  |
|                                 | 3.0  | 142 | MLPV142300  | 25  |
|                                 | 3.0  | 293 | MLPV293300  | 25  |
| PVDF Membrane Disc, non-sterile | 5.0  | 13  | MLPV13500   | 400 |
|                                 | 5.0  | 25  | MLPV25500   | 400 |
|                                 | 5.0  | 47  | MLPV47500   | 100 |
|                                 | 5.0  | 90  | MLPV90500   | 50  |
|                                 | 5.0  | 142 | MLPV142500  | 25  |
|                                 | 5.0  | 293 | MLPV293500  | 25  |
| MCE Membrane Disc, non-sterile  | 0.1  | 13  | MLMCE13010  | 400 |
|                                 | 0.1  | 25  | MLMCE25010  | 400 |
|                                 | 0.1  | 47  | MLMCE47010  | 100 |
|                                 | 0.1  | 90  | MLMCE90010  | 50  |
|                                 | 0.1  | 142 | MLMCE142010 | 25  |
|                                 | 0.1  | 293 | MLMCE293010 | 25  |
| MCE Membrane Disc, non-sterile  | 0.22 | 13  | MLMCE13022  | 400 |
|                                 | 0.22 | 25  | MLMCE25022  | 400 |
|                                 | 0.22 | 47  | MLMCE47022  | 100 |

|                                       |      |     |             |     |
|---------------------------------------|------|-----|-------------|-----|
|                                       | 0.22 | 90  | MLMCE90022  | 50  |
|                                       | 0.22 | 142 | MLMCE142022 | 25  |
|                                       | 0.22 | 293 | MLMCE293022 | 25  |
| MCE Membrane Disc, non-sterile        | 0.45 | 13  | MLMCE13045  | 400 |
|                                       | 0.45 | 25  | MLMCE25045  | 400 |
|                                       | 0.45 | 47  | MLMCE47045  | 100 |
|                                       | 0.45 | 90  | MLMCE90045  | 50  |
|                                       | 0.45 | 142 | MLMCE142045 | 25  |
|                                       | 0.45 | 293 | MLMCE293045 | 25  |
| MCE Membrane Disc, non-sterile        | 0.8  | 13  | MLMCE13080  | 400 |
|                                       | 0.8  | 25  | MLMCE25080  | 400 |
|                                       | 0.8  | 47  | MLMCE47080  | 100 |
|                                       | 0.8  | 90  | MLMCE90080  | 50  |
|                                       | 0.8  | 142 | MLMCE142080 | 25  |
|                                       | 0.8  | 293 | MLMCE293080 | 25  |
| MCE Membrane Disc, non-sterile        | 1.0  | 13  | MLMCE13100  | 400 |
|                                       | 1.0  | 25  | MLMCE25100  | 400 |
|                                       | 1.0  | 47  | MLMCE47100  | 100 |
|                                       | 1.0  | 90  | MLMCE90100  | 50  |
|                                       | 1.0  | 142 | MLMCE142100 | 25  |
|                                       | 1.0  | 293 | MLMCE293100 | 25  |
| MCE Membrane Disc, non-sterile        | 3.0  | 13  | MLMCE13300  | 400 |
|                                       | 3.0  | 25  | MLMCE25300  | 400 |
|                                       | 3.0  | 47  | MLMCE47300  | 100 |
|                                       | 3.0  | 90  | MLMCE90300  | 50  |
|                                       | 3.0  | 142 | MLMCE142300 | 25  |
|                                       | 3.0  | 293 | MLMCE293300 | 25  |
| MCE Membrane Disc, non-sterile        | 5.0  | 13  | MLMCE13500  | 400 |
|                                       | 5.0  | 25  | MLMCE25500  | 400 |
|                                       | 5.0  | 47  | MLMCE47500  | 100 |
|                                       | 5.0  | 90  | MLMCE90500  | 50  |
|                                       | 5.0  | 142 | MLMCE142500 | 25  |
|                                       | 5.0  | 293 | MLMCE293500 | 25  |
| GF Membrane Filter Disc (With Binder) | 0.45 | 13  | MLGF13045   | 160 |
|                                       | 0.45 | 25  | MLGF25045   | 160 |
|                                       | 0.45 | 47  | MLGF47045   | 40  |
|                                       | 0.45 | 50  | MLGF50045   | 40  |
|                                       | 0.45 | 60  | MLGF60045   | 20  |
|                                       | 0.45 | 90  | MLGF90045   | 20  |
|                                       | 0.45 | 100 | MLGF100045  | 20  |
|                                       | 0.45 | 106 | MLGF106045  | 20  |

|  |      |     |            |     |
|--|------|-----|------------|-----|
|  | 0.45 | 120 | MLGF120045 | 20  |
|  | 0.45 | 142 | MLGF142045 | 20  |
|  | 0.45 | 150 | MLGF150045 | 20  |
|  | 0.45 | 200 | MLGF200045 | 20  |
|  | 0.45 | 250 | MLGF250045 | 20  |
| GF Membrane Filter Disc (With Binder)    | 1.0  | 13  | MLGF13100  | 160 |
|  | 1.0  | 25  | MLGF25100  | 160 |
|  | 1.0  | 47  | MLGF47100  | 40  |
|  | 1.0  | 50  | MLGF50100  | 40  |
|  | 1.0  | 60  | MLGF60100  | 20  |
|  | 1.0  | 90  | MLGF90100  | 20  |
|  | 1.0  | 100 | MLGF100100 | 20  |
|  | 1.0  | 106 | MLGF106100 | 20  |
|  | 1.0  | 120 | MLGF120100 | 20  |
|  | 1.0  | 142 | MLGF142100 | 20  |
|  | 1.0  | 150 | MLGF150100 | 20  |
|  | 1.0  | 200 | MLGF200100 | 20  |
|  | 1.0  | 250 | MLGF250100 | 20  |
| GF Membrane Filter Disc (With Binder)    | 1.6  | 13  | MLGF13160  | 160 |
|  | 1.6  | 25  | MLGF25160  | 160 |
|  | 1.6  | 47  | MLGF47160  | 40  |
|  | 1.6  | 50  | MLGF50160  | 40  |
|  | 1.6  | 60  | MLGF60160  | 20  |
|  | 1.6  | 90  | MLGF90160  | 20  |
|  | 1.6  | 100 | MLGF100160 | 20  |
|  | 1.6  | 106 | MLGF106160 | 20  |
|  | 1.6  | 120 | MLGF120160 | 20  |
|  | 1.6  | 142 | MLGF142160 | 20  |
|  | 1.6  | 150 | MLGF150160 | 20  |
|  | 1.6  | 200 | MLGF200160 | 20  |
|  | 1.6  | 250 | MLGF250160 | 20  |
| <b>GF Membrane Filter Without Binder</b> | 1.6  | 13  | MLGF13160  | 120 |
|  | 1.6  | 25  | MLGF25160  | 120 |
|  | 1.6  | 47  | MLGF47160  | 30  |
|  | 1.6  | 50  | MLGF50160  | 30  |
|  | 1.6  | 60  | MLGF60160  | 15  |
|  | 1.6  | 90  | MLGF90160  | 15  |
|  | 1.6  | 100 | MLGF100160 | 15  |
|  | 1.6  | 106 | MLGF106160 | 15  |
|  | 1.6  | 120 | MLGF120160 | 15  |
|  | 1.6  | 142 | MLGF142160 | 15  |
|  | 1.6  | 150 | MLGF150160 | 15  |

Grade: AGF/A

Pore size: 1.6(μm)

Thickness: 0.3mm

Basis weight: 55g/m<sup>2</sup>)

|  |     |     |            |     |
|--|-----|-----|------------|-----|
|  | 1.6 | 200 | MLGF200160 | 15  |
|  | 1.6 | 250 | MLGF250160 | 15  |
| <b>GF Membrane Filter Without Binder</b> | 1.0 | 13  | MLGF13100  | 120 |
|  | 1.0 | 25  | MLGF25100  | 120 |
|  | 1.0 | 47  | MLGF47100  | 30  |
|  | 1.0 | 50  | MLGF50100  | 30  |
|  | 1.0 | 60  | MLGF60100  | 15  |
| Grade: AGF/B                             | 1.0 | 90  | MLGF90100  | 15  |
| Pore size: 1.0(μm)                       | 1.0 | 100 | MLGF100100 | 15  |
| Thickness: 0.65mm                        | 1.0 | 106 | MLGF106100 | 15  |
| Basis weight: 140g/m <sup>2</sup>        | 1.0 | 120 | MLGF120100 | 15  |
|  | 1.0 | 142 | MLGF142100 | 15  |
|  | 1.0 | 150 | MLGF150100 | 15  |
|  | 1.0 | 200 | MLGF200100 | 15  |
|  | 1.0 | 250 | MLGF250100 | 15  |
| <b>GF Membrane Filter Without Binder</b> | 1.2 | 13  | MLGF13120  | 120 |
|  | 1.2 | 25  | MLGF25120  | 120 |
|  | 1.2 | 47  | MLGF47120  | 30  |
| Grade: AGF/C                             | 1.2 | 50  | MLGF50120  | 30  |
| Pore size: 1.2(μm)                       | 1.2 | 60  | MLGF60120  | 15  |
| Thickness: 0.28mm                        | 1.2 | 90  | MLGF90120  | 15  |
| Basis weight: 50g/m <sup>2</sup>         | 1.2 | 100 | MLGF100120 | 15  |
|  | 1.2 | 106 | MLGF106120 | 15  |
|  | 1.2 | 120 | MLGF120120 | 15  |
|  | 1.2 | 142 | MLGF142120 | 15  |
|  | 1.2 | 150 | MLGF150120 | 15  |
|  | 1.2 | 200 | MLGF200120 | 15  |
|  | 1.2 | 250 | MLGF250120 | 15  |
| <b>GF Membrane Filter Without Binder</b> | 2.7 | 13  | MLGF13270  | 120 |
|  | 2.7 | 25  | MLGF25270  | 120 |
|  | 2.7 | 47  | MLGF47270  | 30  |
|  | 2.7 | 50  | MLGF50270  | 30  |
|  | 2.7 | 60  | MLGF60270  | 15  |
| Grade: AGF/D                             | 2.7 | 90  | MLGF90270  | 15  |
| Pore size: 2.7 (μm)                      | 2.7 | 100 | MLGF100270 | 15  |
| Thickness: 0.6 mm                        | 2.7 | 106 | MLGF106270 | 15  |
| Basis weight: 120g/m <sup>2</sup>        | 2.7 | 120 | MLGF120270 | 15  |
|  | 2.7 | 142 | MLGF142270 | 15  |
|  | 2.7 | 150 | MLGF150270 | 15  |
|  | 2.7 | 200 | MLGF200270 | 15  |
|  | 2.7 | 250 | MLGF250270 | 15  |

**GF Membrane Filter Without Binder**

|     |     |            |     |
|-----|-----|------------|-----|
| 1.5 | 13  | MLGF13150  | 120 |
| 1.5 | 25  | MLGF25150  | 120 |
| 1.5 | 47  | MLGF47150  | 30  |
| 1.5 | 50  | MLGF50150  | 30  |
| 1.5 | 60  | MLGF60150  | 15  |
| 1.5 | 90  | MLGF90150  | 15  |
| 1.5 | 100 | MLGF100150 | 15  |
| 1.5 | 106 | MLGF106150 | 15  |
| 1.5 | 120 | MLGF120150 | 15  |
| 1.5 | 142 | MLGF142150 | 15  |
| 1.5 | 150 | MLGF150150 | 15  |
| 1.5 | 200 | MLGF200150 | 15  |
| 1.5 | 250 | MLGF250150 | 15  |

Grade: AGF/E

Pore size: 1.5 (µm)

Thickness: 0.35 mm

 Basis weight: 70g/m<sup>2</sup>
**GF Membrane Filter Without Binder**

|     |     |            |     |
|-----|-----|------------|-----|
| 0.7 | 13  | MLGF13070  | 120 |
| 0.7 | 25  | MLGF25070  | 120 |
| 0.7 | 47  | MLGF47070  | 30  |
| 0.7 | 50  | MLGF50070  | 30  |
| 0.7 | 60  | MLGF60070  | 15  |
| 0.7 | 90  | MLGF90070  | 15  |
| 0.7 | 100 | MLGF100070 | 15  |
| 0.7 | 106 | MLGF106070 | 15  |
| 0.7 | 120 | MLGF120070 | 15  |
| 0.7 | 142 | MLGF142070 | 15  |
| 0.7 | 150 | MLGF150070 | 15  |
| 0.7 | 200 | MLGF200070 | 15  |
| 0.7 | 250 | MLGF250070 | 15  |

Grade:AGF/F

Pore size: 0.7 (µm)

Thickness: 0.4 mm

 Basis weight: 80g/m<sup>2</sup>
**PP Membrane Filter**

|     |     |            |     |
|-----|-----|------------|-----|
| 0.1 | 13  | MLPP13010  | 200 |
| 0.1 | 25  | MLPP25010  | 200 |
| 0.1 | 47  | MLPP47010  | 50  |
| 0.1 | 50  | MLPP50010  | 50  |
| 0.1 | 60  | MLPP60010  | 25  |
| 0.1 | 90  | MLPP90010  | 25  |
| 0.1 | 100 | MLPP100010 | 25  |
| 0.1 | 106 | MLPP106010 | 25  |
| 0.1 | 142 | MLPP142010 | 25  |
| 0.1 | 150 | MLPP150010 | 25  |
| 0.1 | 200 | MLPP200010 | 25  |
| 0.1 | 250 | MLPP250010 | 25  |
| 0.1 | 293 | MLPP293010 | 25  |

**PP Membrane Filter**

|      |    |           |     |
|------|----|-----------|-----|
| 0.22 | 13 | MLPP13022 | 200 |
| 0.22 | 25 | MLPP25022 | 200 |
| 0.22 | 47 | MLPP47022 | 50  |

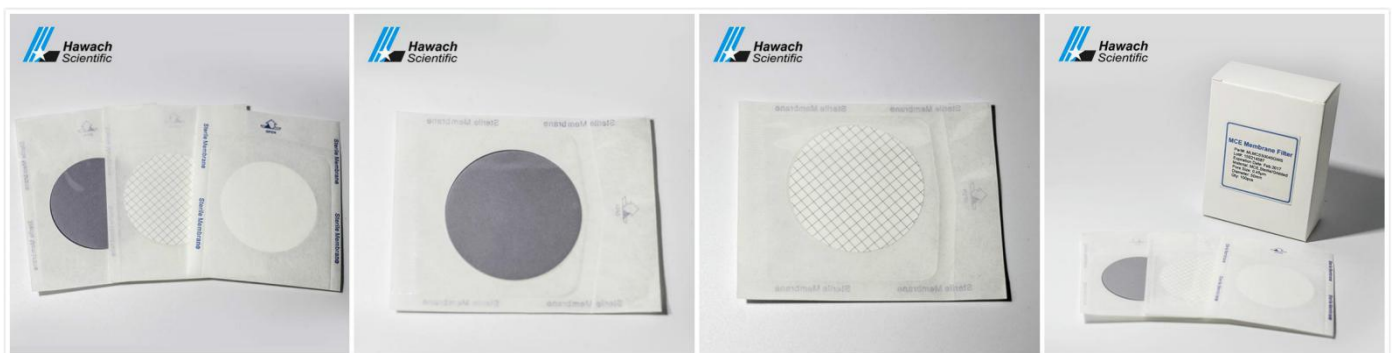
|                    |      |     |            |     |
|--------------------|------|-----|------------|-----|
|                    | 0.22 | 50  | MLPP50022  | 50  |
|                    | 0.22 | 60  | MLPP60022  | 25  |
|                    | 0.22 | 90  | MLPP90022  | 25  |
|                    | 0.22 | 100 | MLPP100022 | 25  |
|                    | 0.22 | 106 | MLPP106022 | 25  |
|                    | 0.22 | 142 | MLPP142022 | 25  |
|                    | 0.22 | 150 | MLPP150022 | 25  |
|                    | 0.22 | 200 | MLPP200022 | 25  |
|                    | 0.22 | 250 | MLPP250022 | 25  |
|                    | 0.22 | 293 | MLPP293022 | 25  |
| PP Membrane Filter | 0.45 | 13  | MLPP13045  | 200 |
|                    | 0.45 | 25  | MLPP25045  | 200 |
|                    | 0.45 | 47  | MLPP47045  | 50  |
|                    | 0.45 | 50  | MLPP50045  | 50  |
|                    | 0.45 | 60  | MLPP60045  | 25  |
|                    | 0.45 | 90  | MLPP90045  | 25  |
|                    | 0.45 | 100 | MLPP100045 | 25  |
|                    | 0.45 | 106 | MLPP106045 | 25  |
|                    | 0.45 | 142 | MLPP142045 | 25  |
|                    | 0.45 | 150 | MLPP150045 | 25  |
|                    | 0.45 | 200 | MLPP200045 | 25  |
|                    | 0.45 | 250 | MLPP250045 | 25  |
|                    | 0.45 | 293 | MLPP293045 | 25  |
| PP Membrane Filter | 0.65 | 13  | MLPP13065  | 200 |
|                    | 0.65 | 25  | MLPP25065  | 200 |
|                    | 0.65 | 47  | MLPP47065  | 50  |
|                    | 0.65 | 50  | MLPP50065  | 50  |
|                    | 0.65 | 60  | MLPP60065  | 25  |
|                    | 0.65 | 90  | MLPP90065  | 25  |
|                    | 0.65 | 100 | MLPP100065 | 25  |
|                    | 0.65 | 106 | MLPP106065 | 25  |
|                    | 0.65 | 142 | MLPP142065 | 25  |
|                    | 0.65 | 150 | MLPP150065 | 25  |
|                    | 0.65 | 200 | MLPP200065 | 25  |
|                    | 0.65 | 250 | MLPP250065 | 25  |
|                    | 0.65 | 293 | MLPP293065 | 25  |
| PP Membrane Filter | 0.8  | 13  | MLPP13080  | 200 |
|                    | 0.8  | 25  | MLPP25080  | 200 |
|                    | 0.8  | 47  | MLPP47080  | 50  |
|                    | 0.8  | 50  | MLPP50080  | 50  |
|                    | 0.8  | 60  | MLPP60080  | 25  |
|                    | 0.8  | 90  | MLPP90080  | 25  |

|                    |     |     |            |     |
|--------------------|-----|-----|------------|-----|
|                    | 0.8 | 100 | MLPP100080 | 25  |
|                    | 0.8 | 106 | MLPP106080 | 25  |
|                    | 0.8 | 142 | MLPP142080 | 25  |
|                    | 0.8 | 150 | MLPP150080 | 25  |
|                    | 0.8 | 200 | MLPP200080 | 25  |
|                    | 0.8 | 250 | MLPP250080 | 25  |
|                    | 0.8 | 293 | MLPP293080 | 25  |
| PP Membrane Filter | 1.0 | 13  | MLPP13100  | 200 |
|                    | 1.0 | 25  | MLPP25100  | 200 |
|                    | 1.0 | 47  | MLPP47100  | 50  |
|                    | 1.0 | 50  | MLPP50100  | 50  |
|                    | 1.0 | 60  | MLPP60100  | 25  |
|                    | 1.0 | 90  | MLPP90100  | 25  |
|                    | 1.0 | 100 | MLPP100100 | 25  |
|                    | 1.0 | 106 | MLPP106100 | 25  |
|                    | 1.0 | 142 | MLPP142100 | 25  |
|                    | 1.0 | 150 | MLPP150100 | 25  |
|                    | 1.0 | 200 | MLPP200100 | 25  |
|                    | 1.0 | 250 | MLPP250100 | 25  |
|                    | 1.0 | 293 | MLPP293100 | 25  |
| PP Membrane Filter | 3.0 | 13  | MLPP13300  | 200 |
|                    | 3.0 | 25  | MLPP25300  | 200 |
|                    | 3.0 | 47  | MLPP47300  | 50  |
|                    | 3.0 | 50  | MLPP50300  | 50  |
|                    | 3.0 | 60  | MLPP60300  | 25  |
|                    | 3.0 | 90  | MLPP90300  | 25  |
|                    | 3.0 | 100 | MLPP100300 | 25  |
|                    | 3.0 | 106 | MLPP106300 | 25  |
|                    | 3.0 | 142 | MLPP142300 | 25  |
|                    | 3.0 | 150 | MLPP150300 | 25  |
|                    | 3.0 | 200 | MLPP200300 | 25  |
|                    | 3.0 | 250 | MLPP250300 | 25  |
|                    | 3.0 | 293 | MLPP293300 | 25  |
| PP Membrane Filter | 5.0 | 13  | MLPP13500  | 200 |
|                    | 5.0 | 25  | MLPP25500  | 200 |
|                    | 5.0 | 47  | MLPP47500  | 50  |
|                    | 5.0 | 50  | MLPP50500  | 50  |
|                    | 5.0 | 60  | MLPP60500  | 25  |
|                    | 5.0 | 90  | MLPP90500  | 25  |
|                    | 5.0 | 100 | MLPP100500 | 25  |
|                    | 5.0 | 106 | MLPP106500 | 25  |
|                    | 5.0 | 142 | MLPP142500 | 25  |

|                    |      |     |             |     |
|--------------------|------|-----|-------------|-----|
|                    | 5.0  | 150 | MLPP150500  | 25  |
|                    | 5.0  | 200 | MLPP200500  | 25  |
|                    | 5.0  | 250 | MLPP250500  | 25  |
|                    | 5.0  | 293 | MLPP293500  | 25  |
| PP Membrane Filter | 10.0 | 13  | MLPP131000  | 200 |
|                    | 10.0 | 25  | MLPP251000  | 200 |
|                    | 10.0 | 47  | MLPP471000  | 50  |
|                    | 10.0 | 50  | MLPP501000  | 50  |
|                    | 10.0 | 60  | MLPP601000  | 25  |
|                    | 10.0 | 90  | MLPP901000  | 25  |
|                    | 10.0 | 100 | MLPP1001000 | 25  |
|                    | 10.0 | 106 | MLPP1061000 | 25  |
|                    | 10.0 | 142 | MLPP1421000 | 25  |
|                    | 10.0 | 150 | MLPP1501000 | 25  |
|                    | 10.0 | 200 | MLPP2001000 | 25  |
|                    | 10.0 | 250 | MLPP2501000 | 25  |
|                    | 10.0 | 293 | MLPP2931000 | 25  |

## Sterile MCE Gridded Membrane Filter

Mixed Cellulose Ester (MCE) membrane filter is composed of cellulose acetate and cellulose nitrate. Because MCE membrane is biologically inert, it is one of the most widely used membrane in analytical and research applications. Many microbiological techniques include Colony Counting after incubation as the standard method of quantification. Gridded filters have clearly defined grid lines spaced at 3.1mm intervals. The special link use non-toxic and completely free from bacterial growth inhibitors. Special color contrast provided by the membrane surface facilitates particle detection and minimize eye fatigue. It is ideal for Colony Counting and Sterility Testing, and the recovery and retention of bacteria in water/waste water analysis and other microbiological tests.



## Features

- \*Hydrophilic membrane
- \*High flow rate for faster filtration and high binding capacity
- \*Diameter: 25mm, 47mm, 50mm
- \*Pore Size: 0.22um , 0.45um, 0.80um
- \*Clearly defined grid lines spaced at 3.1mm intervals
- \*Gamma irradiated for sterilization



\*Individually sealed with easy-open white separator paper

## Ordering Information

| Description   | um   | Φ mm | Part No.       | Pcs/pk |
|---|------|------|----------------|--------|
| MCE Membrane Filter, White, Gridded, Sterile          | 0.22 | 47   | MLMCE47022GWS  | 100    |
|   | 0.22 | 50   | MLMCE50022GWS  | 100    |
| MCE Membrane Filter, White, Gridded, Sterile          | 0.45 | 47   | MLMCE47045GWS  | 100    |
|   | 0.45 | 50   | MLMCE50045GWS  | 100    |
| MCE Membrane Filter, White, Gridded, Sterile          | 0.80 | 47   | MLMCE47080GWS  | 100    |
|   | 0.80 | 50   | MLMCE50080GWSP | 100    |
| MCE Membrane Filter, White, Gridded, Sterile,with Pad | 0.22 | 47   | MLMCE47022GWSP | 100    |
|   | 0.22 | 50   | MLMCE50022GWSP | 100    |
| MCE Membrane Filter, White, Gridded, Sterile,with Pad | 0.45 | 47   | MLMCE47045GWSP | 100    |
|   | 0.45 | 50   | MLMCE50045GWSP | 100    |
| MCE Membrane Filter, White, Gridded, Sterile,with Pad | 0.80 | 47   | MLMCE47080GWSP | 100    |
|   | 0.80 | 50   | MLMCE50080GWSP | 100    |
| MCE Membrane Filter, Black, Gridded, Sterile          | 0.22 | 47   | MLMCE47022GBS  | 100    |
|   | 0.22 | 50   | MLMCE50022GBS  | 100    |
| MCE Membrane Filter, Black, Gridded, Sterile          | 0.45 | 47   | MLMCE47045GBS  | 100    |
|   | 0.45 | 50   | MLMCE50045GBS  | 100    |
| MCE Membrane Filter, Black, Gridded, Sterile          | 0.80 | 47   | MLMCE47080GBS  | 100    |
|   | 0.80 | 50   | MLMCE50080GBSP | 100    |
| MCE Membrane Filter, Black, Gridded, Sterile,with Pad | 0.22 | 47   | MLMCE47022GBSP | 100    |
|   | 0.22 | 50   | MLMCE50022GBSP | 100    |
| MCE Membrane Filter, Black, Gridded, Sterile,with Pad | 0.45 | 47   | MLMCE47045GBSP | 100    |
|   | 0.45 | 50   | MLMCE50045GBSP | 100    |
| MCE Membrane Filter, Black, Gridded, Sterile,with Pad | 0.80 | 47   | MLMCE47080GBSP | 100    |
|   | 0.80 | 50   | MLMCE50080GBSP | 100    |