

The Membrane Selector Guide

Fit-for-purpose filtration starts here.

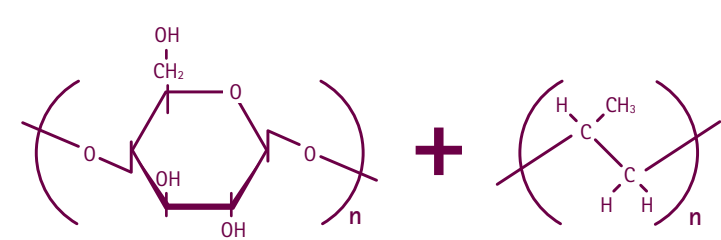
Hydrophilic

Hydrophobic

Ultrafiltration

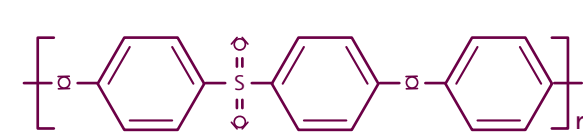
Particle size: 1 kDa to 500 kDa
 Examples: Proteins, virus, nucleic acids and nanoparticles
 Filter type: Ultrafilters

Ultraflex®-PL Membrane



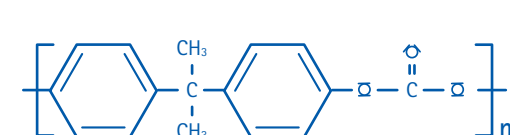
Brand Name	Ultraflex®-PL Membrane
Membrane Material	Regenerated Cellulose
Pore Sizes (NMWL)	1 to 100 kDa
Wettability	Hydrophilic
Chemical Compatibility	Broad chemical compatibility, compatible with both aqueous and organic solvents
Sterilizability	Autoclave, EtO and solvent incubation
Surface Option	White
Key Properties	Low protein binding. Polyolefin backing material provides support without impeding flow
Key Applications	Concentration of protein solutions, separation of low from high molecular weight molecules, protein binding studies, buffer exchange
Devices	Amicon Ultra® devices, Stirred cell membrane discs, Microcon® devices, Centrifree® devices

Biomax® Membrane



Brand Name	Biomax® Membrane
Membrane Material	Polyethersulfone (PES)
Pore Sizes (NMWL)	5 to 500
Thickness (µm)	300
Wettability	Hydrophilic
Temperature Limitations	50 °C max
Chemical Compatibility	Compatible with aqueous solvents and alcohols
Sterilizability	Compatible with pH 1-14
Surface Option	Autoclave, EtO and solvent incubation
Key Properties	Low to moderate protein binding, high flow rate, Polyolefin backing material
Key Applications	Concentration of protein solutions, separation of low from high molecular weight molecules, buffer exchange
Devices	Stirred cell filter discs

Isopore™ Membrane



Brand Name	Isopore™ Membrane
Membrane Material	Polycarbonate
Pore Sizes (µm)	0.1 - 10
Thickness (µm)	21 - 27
Porosity (%)	5 - 10
Water Flow Rate (mL/min/cm²) @ 10 psi	0.5 - 250
Air Flow (L/min/cm²) @ 10 psi	1.3 - 72 l (typical values)
Wettability	Hydrophilic
Refractive Index	1.6
Temperature Limitations	140 °C max
Chemical Compatibility	Compatible with both aqueous and organic solvents
Sterilizability	Autoclave, EtO and gamma
Surface Option	White, brown
Key Properties	Narrow pore size distribution, collects particles on surface for analysis
Key Applications	Particle analysis, air monitoring, microscopy, cell migration and chemotaxis assays, epifluorescence, size fractionation of cells and particulates
Devices	Millicell® plates/inserts, MultiScreen® plates, filter discs

Omnipore™ Membrane

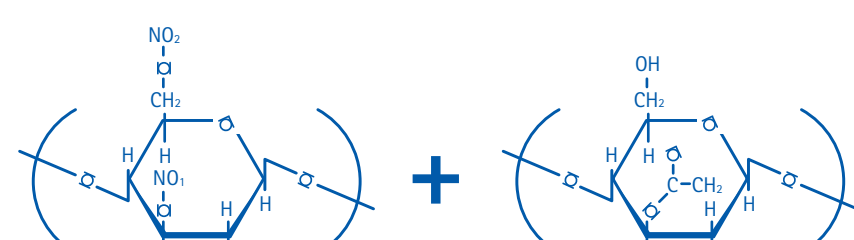


Brand Name	Omnipore™ Membrane
Membrane Material	Hydrophilic Polytetrafluoroethylene (PTFE)
Pore Sizes (µm)	0.1 - 10
Thickness (µm)	30 - 85
Water Flow Rate (mL/min/cm²) @ 8.97 in. Hg	2 - 1250
Wettability	Hydrophilic
Chemical Compatibility	Compatible with both aqueous and organic solvents
Sterilizability	Autoclave, EtO
Surface Option	White
Key Properties	Compatible with both aqueous and organic solvents, broad chemical compatibility
Key Applications	Clarifying acids, bases and aqueous solutions
Devices	Membrane

Microfiltration

Particle size: 0.025 µm to 10 µm
 Examples: Bacteria including *B. diminuta*, microorganisms, undissolved excipients, dust, asbestos, mycoplasma
 Filter type: Screen filters

MF-Millipore™ Membrane



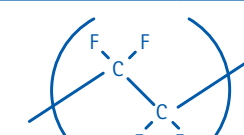
Brand Name	MF-Millipore™ Membrane
Membrane Material	Mixed Cellulose Esters (MCE)
Pore Sizes (µm)	0.025 - 8
Thickness (µm)	105 - 150
Water Flow (mL/min/cm²) @ 27.5 in. Hg	20.1 - 625
Air Flow (L/min/cm²) @ 10 psi	0.12 - 68.9 (typical values)
Porosity (%)	70 - 84
Wettability	Hydrophilic
Refractive Index	1.50 - 1.52
Temperature Limitations	55 °C max
Protein Binding Capacity	(IgG) 299 - 319 µg/cm²
Chemical Compatibility	Recommended for aqueous solvents
Sterilizability	Autoclave, EtO
Surface Option	Black, white, gridded
Key Properties	Versatile fast-flowing membrane, supports cell growth, high protein-binding
Key Applications	Sterilizing filtration, air monitoring, general clarification, bacteriological analysis, drop dialysis, particle analysis, colony hybridization, nucleic acid and protein blotting, Elispot
Devices	Millex® syringe filters, Millicell® plates/inserts, Stericup® filters, MultiScreen® plates, Stericup® filters, Steritest™ devices, Sterivex™ filters, Microfil® devices, filter discs

Fluoropore™ Membrane



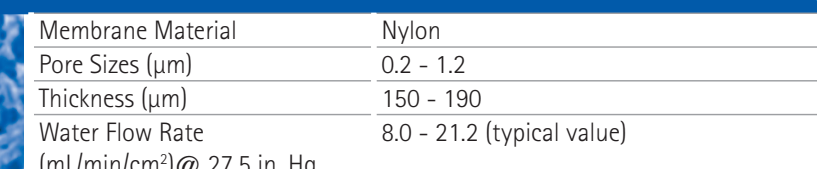
Brand Name	Fluoropore™ Membrane
Membrane Material	Hydrophobic Polytetrafluoroethylene (PTFE)
Pore Sizes (µm)	0.2 - 3
Thickness (µm)	50 - 150
Porosity (%)	85
Liquid Flow (mL/min/cm²) @ 27.5 in. Hg	24 - 286 (methanol)
Air Flow (L/min/cm²) @ 10 psi	5 - 20
Wettability	Hydrophobic
Temperature Limitations	130 °C max
Chemical Compatibility	Compatible with both aqueous and organic solvents
Sterilizability	Autoclave, EtO
Surface Option	White
Key Properties	Solvent-resistant, fast-flowing, low pressure drop, low extractables, low binding
Key Applications	Clarifying acids, bases and solvents, air monitoring, filtering and venting gases, UV spectroscopy, radiation monitoring
Devices	Millex® syringe filters, filter discs

LCR Membrane



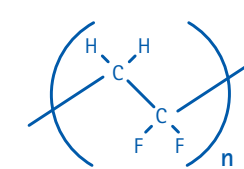
Brand Name	LCR Membrane
Membrane Material	Hydrophilic Polytetrafluoroethylene (PTFE)
Pore Sizes (µm)	0.45 only
Thickness (µm)	140
Porosity (%)	90
Water Flow Rate (mL/min/cm²) @ 27.5 in. Hg	28.4
Air Flow (L/min/cm²) @ 10 psi	1.1 (typical values)
Wettability	Hydrophilic
Temperature Limitations	130 °C max
Chemical Compatibility	Compatible with both aqueous and organic solvents
Sterilizability	Autoclave, EtO
Surface Option	White
Key Properties	Minimal extractable levels, broad chemical compatibility
Key Applications	HPLC mobile phase filtration, clarifying acids, bases and dilute protein solutions
Devices	Millex® syringe filters, Millex-Samplicity® filters, filter discs

Nylon Membrane



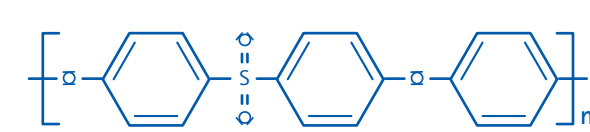
Membrane Material	Nylon
Pore Sizes (µm)	0.2 - 1.2
Thickness (µm)	150 - 190
Water Flow Rate (mL/min/cm²) @ 27.5 in. Hg	8.0 - 21.2 (typical value)
Wettability	Hydrophilic
Chemical Compatibility	Compatible with both aqueous and organic solvents
Sterilizability	Autoclave, EtO and gamma
Surface Option	White
Key Properties	General purpose, good solvent resistance
Key Applications	Particle removal and clarification of solvents, particle analysis
Devices	Millex® syringe filters, filter discs

Durapore® Membrane



Brand Name	Durapore® Membrane
Membrane Material	Polyvinylidene Difluoride (PVDF)
Pore Sizes (µm)	0.1 - 5
Thickness (µm)	80-140
Water Flow (mL/min/cm²) @ 27.5 in. Hg	(hydrophilic) 4 - 208
Air Flow (L/min/cm²) @ 10 psi	(hydrophobic) 0.9 - 4.9 (typical values)
Wettability	Hydrophilic and hydrophobic options
Refractive Index	1.42
Temperature Limitations	85 °C max
Protein Binding Capacity	(IgG) < 10 µg/cm²
Chemical Compatibility	Recommended for aqueous solvents
Sterilizability	Autoclave, EtO and gamma
Surface Option	White
Key Properties	Low protein-binding (hydrophilic), solvent-resistant (hydrophobic)
Key Applications	Sterilizing filtration, clarifying filtration of protein-containing solutions, mycoplasma reduction, gas filtration and venting (hydrophobic), solvent filtration (hydrophobic)
Devices	Millex® syringe filters, Millicell® filters, MultiScreen® plates, Stericup® filters, Steritest™ devices, Sterivex™ filters, Ultrafree® filter units, filter discs

Millipore Express® PLUS Membrane



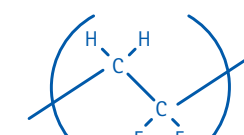
Brand Name	Millipore Express® PLUS Membrane
Membrane Material	Polyethersulfone (PES)
Pore Sizes (µm)	0.22, 0.45
Thickness (µm)	130 - 185
Water Flow Rate (mL/min/cm²) @ 27.5 in. Hg	27 to greater than 44
Wettability	Hydrophilic
Protein Binding Capacity	(IgG) 22 µg/cm²
Chemical Compatibility	Recommended for aqueous solvents
Sterilizability	Autoclave, EtO and gamma
Surface Option	White, plain or gridded
Key Properties	Fast flow, high throughput, low protein binding
Key Applications	Sterilizing filtration of biological solutions
Devices	Stericup® filters, Millex® syringe filters, MultiScreen® plates, filter discs

Mitex™ Membrane



Brand Name	Mitex™ Membrane
Membrane Material	Hydrophobic Polytetrafluoroethylene (PTFE)
Pore Sizes (µm)	5 - 10
Thickness (µm)	125 - 200
Water Flow (mL/min/cm²) @ 27.5 in. Hg	47 to greater than 125
Air Flow (L/min/cm²) @ 10 psi	117 - 167
Wettability	Hydrophobic
Temperature Limitations	260 °C max
Chemical Compatibility	Compatible with both aqueous and organic solvents
Sterilizability	Autoclave, EtO
Surface Option	White, plain or gridded
Key Properties	Pure PTFE (unbacked), easy handling, solvent-resistant, fast-flowing, low extractables
Key Applications	Clarifying acids, bases, solvents and cryogenic fluids, hydraulic fluid analysis
Devices	Millex® syringe filters, filter discs

Immobilon® Membrane

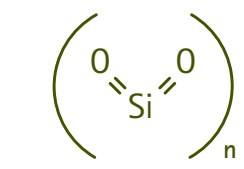


Brand Name	Immobilon® Membrane
Membrane Material	Polyvinylidene Difluoride (PVDF)
Pore Sizes (µm)	0.22 - 0.45
Wettability	Hydrophobic
Protein Binding Capacity	(IgG) Avg 333.4
Chemical Compatibility	Compatible with both aqueous and organic solvents
Sterilizability	Autoclave, EtO and gamma
Surface Option	White
Key Properties	High protein-binding, durable
Key Applications	Protein blotting (Western), Elispot
Devices	Membrane roll stock and sheet, MultiScreen® plates

Prefiltration/Clarification

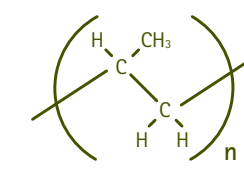
Particle size: 10 µm+
 Examples: Large particles in environmental samples and industrial fluids, total suspended solids in wastewater, cell aggregates and multicellular organisms, pollen
 Filter type: Depth and net filters

Glass Fiber Filters



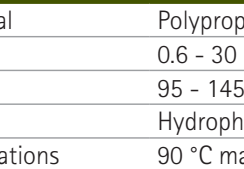
Membrane Material	Borosilicate Glass or Quartz Microfibers
Pore Sizes (µm)	0.2 - 8.0
Thickness (µm)	230 - 1200
Water Flow Rate (mL/min/cm²)	1.2 - 6.0
Air Flow (L/min/cm²) @ 10 psi	10.6 - 139
Wettability	Hydrophilic
Temperature Limitations	500 to 850 °C max
Chemical Compatibility	Recommended for aqueous solvents
Sterilizability	Autoclave, EtO and gamma
Surface Option	White
Key Properties	Prefiltration down to 0.6 µm particles, high temperature-compatible and non-shedding options, pure and binderless materials
Key Applications	Toxic Characteristic Leaching Procedure (TCLP), Total Suspended Solids (TSS), heavy metals analysis, prefiltration, air monitoring
Devices	Millex® syringe filters, filter discs

Polypropylene Net Prefilters



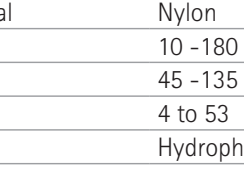
Membrane Material	Polypropylene
Pore Sizes (µm)	25 up to 80
Thickness (µm)	330 to 450
Wettability	Hydrophobic
Chemical Compatibility	Compatible with aqueous solvents
Sterilizability	Autoclave, EtO and gamma
Surface Option	White
Key Properties	Large pore size options, good solvent resistance
Key Applications	General prefiltration and clarification, suitable for organic solvents
Devices	Filter discs

Polypropylene Prefilters



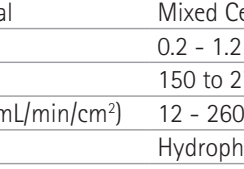
Membrane Material	Polypropylene
Pore Sizes (µm)	0.6 - 30
Thickness (µm)	95 - 145
Wettability	Hydrophobic
Temperature Limitations	90 °C max
Chemical Compatibility	Recommended for aqueous solvents
Sterilizability	Autoclave, EtO and gamma
Surface Option	White
Key Properties	High particle retention and dirt-holding capacity, low pressure drop
Key Applications	General prefiltration and clarification, suitable for organic solvents
Devices	Filter discs

Nylon Net



Membrane Material	Nylon
Pore Sizes (µm)	10 - 180
Thickness (µm)	45 - 135
Porosity (%)	4 to 53
Wettability	Hydrophilic
Chemical Compatibility	Compatible with both aqueous and organic solvents
Sterilizability	Autoclave, EtO and gamma
Surface Option	White
Key Properties	Large pore size options, uniform pore structure
Key Applications	Cell collection, large particulate filtration, particle analysis, flow cytometry sample prep, toxicology and drug screening on C. elegans and zebrafish
Devices	Steriflip® filters, filter discs

Reinforced Prefilter Membrane



Membrane Material	Mixed Cellulose Esters around a polyester web
Pore Sizes (µm)	0.2 - 1.2
Thickness (µm)	150 to 270
Water Flow Rate (mL/min/cm²)	12 - 260
Wettability	Hydrophilic
Temperature Limitations	70 °C max
Chemical Compatibility	Recommended for aqueous solvents
Sterilizability	Autoclave, EtO
Surface Option	White
Key Properties	Non-shedding, high dirt-loading capacity, low pressure drop
Key Applications	Prefiltration ahead of sterilizing grade filters
Devices	Filter discs