



# Sterile Filtration You Trust

Mile Mart

MilliporeSigma is the U.S. and Canada Life Science business of Merck KGaA, Darmstadt, Germany.

# **Millipore**®

Preparation, Separation, Filtration & Monitoring Products

# Millipore<sup>®</sup> – the name you trust for sterile filtration

Millipore<sup>®</sup> is the brand of choice for sterile filters–for everything from media preparation for your cell culture, to sterilization of critical drug compounds:

### Selection

From 1 mL to 20 L, we offer an array of both vacuumand pressure-driven devices that incorporate our longtrusted membrane technology.

#### **Expertise**

With over 50 years of expertise in the sterile filtration business, we set the industry standard for high performance membrane technology and application in sterile filtration.

#### Innovation

As protocols requiring sterile filtration evolve, we continually qualify our filter systems to provide application-specific data.

#### **Improving on Sustainability**

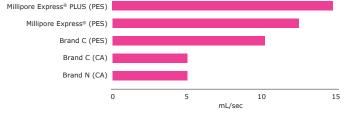
We are proud to introduce Stericup<sup>®</sup> E and Steritop<sup>®</sup> E sterile filtration devices, designed to ensure troublefree cell culture, while diminishing environmental impact. Groundbreaking device design maintains exceptional Stericup<sup>®</sup> filtration while dramatically reducing the use of disposable plastic and packaging materials. (see p. 8)

### **Membrane Technology**

Sterile filtration performance depends on the quality of the membranes used. Our Millipore Express<sup>®</sup> PLUS, Durapore<sup>®</sup>, MF-Millipore<sup>™</sup> and Fluoropore<sup>™</sup> brand membranes set the industry standard for their application-specific properties (see below).

#### **Fit-for-Application Membrane Chemistries**

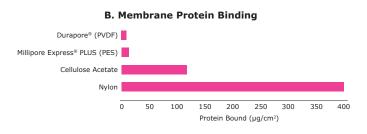
- Fastest flow, low protein-binding of aqueous solutions with Millipore Express<sup>®</sup> and Express<sup>®</sup> PLUS polyethersulfone (PES) membrane devices
- Fast flow and low protein-binding Mixed Cellulose Esters (MCE)
- Broad chemical compatibility and very low proteinbinding polyvinylidene fluoride (PVDF)



# A. Bottle-top Vacuum Filter Flow Rates

#### Figure 1.

A. Faster flow with Millipore Express<sup>®</sup> PLUS membrane. 500 mL of DMEM with 10% FBS was filtered through various vacuum-driven cup devices. CA, cellulose acetate. PES, polyethersulfone.



B. Lowest protein binding with Durapore® PVDF membrane. Membrane disks with a 0.22  $\mu m$  pore size were offered a 1 mg/mL solution of  $^{125}l$  labeled IgG. The chart shows protein binding after incubation (normalized to membrane surface area).

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# What people are saying...

"For over 40 years we've trusted MilliporeSigma to provide the quality filtration tools we need."

James T. Voss, NRRPT, CHP Fellow, Health Physics Society, President of Voss Associates.

"Trusted partners like MilliporeSigma are rare but central to our success."

Dr. Michael West, CEO, BioTime, Inc., Renowned thought leader in stem cell therapeutics

# **Summary of Sterile Filtration Products**

#### Vacuum filtration devices for cell culture media preparation

Description	Pore Size (µm)	Membrane	Maximum Process Volume	
Stericup <sup>®</sup> Quick Release Filtration	0.1 0.22 0.45	Millipore Express® PLUS (PES), Durapore® (PVDF)	150 mL 250 mL 500 mL	-
Steritop <sup>®</sup> Quick Release Bottle-Top Filtration Units	0.1 0.22	Millipore Express® PLUS (PES), Durapore (PVDF)	1000 mL 150 mL 250 mL 500 mL 1000 mL	
Stericup <sup>®</sup> E Eco-Friendly Filtration and Storage Units	0.22	Millipore Express <sup>®</sup> PLUS (PES)	500 mL 1000 mL	
Steritop <sup>®</sup> E Eco-Friendly Bottle- Top Filtration Units	0.22	Millipore Express® PLUS (PES)	All Volumes	2
Steriflip <sup>®</sup> Filtration Units	0.22 0.45	Millipore Express® PLUS (PES), Durapore® (PVDF), Nylon Net	50 mL	1
Click Seal Receiver Bottles and Caps			100 mL 250 mL 500 mL	

#### Sterile syringe filters for cell culture media preparation and small volume filtration

Description	Pore Size (µm)	Membrane	Maximum Process Volume	2
Millex® Syringe Filters (4, 13, 25 mm)	0.2 0.22 0.45 0.5	Millipore Express® (PES), Durapore® (PVDF), MCE	1 – 100 mL	<b>*</b> •••
Millex <sup>®</sup> Syringe Filters (33 mm)	0.1 0.22 0.45 0.8	Millipore Express® PLUS (PES), Durapore® (PVDF), MCE	10 – 200 mL	÷

# Large-scale sterile filtration devices

Description	Pore Size (µm)	Membrane	Maximum Process Volume	2
Stericap <sup>™</sup> PLUS Vacuum-driven Filters	0.22	Millipore Express® PLUS (PES)	2 - 10 L	
Sterivex <sup>®</sup> Pressure- driven Filters	0.22 0.45	Millipore Express® PLUS (PES), Durapore® (PVDF)	Up to 2 L	The second
Millex <sup>®</sup> -GP 50 mm Pressure-driven Filters	0.22	Millipore Express® (PES)	Up to 4 L	
Steripak™ Pressure- driven Filters	0.22	Millipore Express® (PES)	10 L 20 L	4

### Hydrophobic filters for gas filtration

Description	Pore Size (µm)	Inlet-Outlet Fittings	Membrane	
Millex®-FG 25 mm Syringe Filters	0.22	FLL-MLS, FLL-MLL, FLS-MLS, FLL-Spike	Hydrophobic PTFE, Hydrophobic PVDF	++++++++++++++++++++++++++++++++++++++
Millex <sup>®</sup> -FG 50 mm for gas filtration and protection of vacuum pumps	0.2 0.45 1.0	Stepped Hose Barb with FLS – 1/8 in. NPTM	Hydrophobic PTFE	

 $\label{eq:FLL} \begin{array}{l} \mathsf{FLL} = \mathsf{Female Luer-Lok}^{\circledast} \\ \mathsf{FLS} = \mathsf{Female Luer slip} \end{array}$ 

 $\mathsf{MLL} = \mathsf{Male} \ \mathsf{Luer}\text{-}\mathsf{Lok}^{\circledast}$ 

MLS = Male Luer slip



# **Bench-scale Filters**

# Stericup<sup>®</sup> & Steritop<sup>®</sup> Filter Units

Stericup<sup>®</sup> and Steritop<sup>®</sup> sterile filtration devices combine superior flow rates and throughput with low non-specific binding and a stable, no-tip design.

#### Fast flow, low-binding membranes

Membranes with low protein binding ensure that key growth factors and proteins won't be absorbed onto the filter. Millipore Express® PLUS membranes feature low protein binding and faster flow than other membranes. For applications that require ultra-low protein binding, use a device with a Durapore® PVDF membrane.

#### Stericup<sup>®</sup> Quick Release Filtration Systems

#### Work With Ease. Filter With Confidence.

Stericup<sup>®</sup> Quick Release Filtration Systems streamline your workflow with ergonomic design updates and safeguard your results with the proven performance of Millipore membranes.

- Quarter-Turn Quick Release Funnel Removal
- Prosted Writing Surface
- 3 Lighter Color for Legibility
- 4 Click-Seal Confidence Cap

### **Additional Features:**

- Cap Rests on the Side to Avoid Risk of Contamination
- Stackable Bottles to Save Space



### Stericup® & Steritop® Quick Release Filter Units

#### **Stericup® Filter Units**

Stericup® Filtration Systems combine a filter unit with a receiver flask and cap for processing and storage.

Description	Membrane/Application	Pore Size (µm)	Funnel Capacity (mL)	Receiver Bottle (mL)	Qty/Pk	Thomas No.
Stericup <sup>®</sup> -GP	Millipore Express® PLUS	0.22	150	150	12	1141Q35
Quick Release Filter Units <sup>+</sup>	(PES)/fast filtration of tissue culture media and buffers		250	250	12	20A00F760
			500	500	12	1156F95
			500	1000	12	21A00J972
			1000	1000	12	1139B18
Stericup <sup>®</sup> -HV	Durapore <sup>®</sup> (PVDF)/filtration		150	150	12	21A00J960
Quick Release Filter Units	of high value biomolecules, lowest protein binding		250	250	12	21A00J961
			500	500	12	21A00J962
			1000	1000	12	21A00J956
Stericup <sup>®</sup> -VP Quick Release	Millipore Express® (PES) / removal of mycoplasma*	0.1	250	250	12	21A00J968
Filter Units			1000	1000	12	21A00J967
Stericup <sup>®</sup> -GV	Durapore <sup>®</sup> (PVDF) /	0.22	150	150	12	20A00G496
Quick Release Filter Units	filtration of high value biomolecules, lowest		250	250	12	1139B17
	protein binding		500	500	12	20A00F913
			500	1000	12	21A00J954
			1000	1000	12	21A00J955

#### **Steritop® Filter Units**

Steritop<sup>®</sup> bottle-top filter units can be used on bottles with 33 mm or 45 mm thread.

Description	Membrane/Application	Pore Size (µm)	Funnel Capacity (mL)	Thread Size (mm)	Qty/Pk	Thomas No.
Steritop <sup>®</sup> QR	Millipore Express® PLUS	0.22	150	45	12	21A00J970
Quick Release Filter Units⁺	(PES)/fast filtration of tissue culture media and buffers		250	45	12	21A00J971
			500	45	12	1156F94
			1000	45	12	21A00J969
Steritop <sup>®</sup> -GP	Millipore Express® PLUS (PES) / filtration of high value biomolecules, lowest protein binding	filtration of high value ecules, lowest protein	150	33	12	1208R47
Quick Release Filter Units			250	33	12	1208R48
			500	33	12	1208R49
Steritop®-GV Quick Release Filter Units	Durapore <sup>®</sup> (PVDF) / filtration of high value biomolecules, lowest protein binding	0.22	500	45	12	21A00J974
Steritop <sup>®</sup> -VP Quick Release Filter Units	Millipore Express® (PES)/ removal or mycoplasma*	0.1	1000	45	12	21A00J977
Click Seal Receiver			250	45	12	20A00L596
Bottles and Caps			500	45	12	20A00F759
			1000	45	12	21A00J973

\* 0.10 µm pore size is designed to enhance maximum filtration of tissue culture media but it is not a guarantee of complete mycoplasma removal.

- <sup>+</sup> Selected stem cell research publications citing Stericup® or Steritop® device for sterile filtration of medium:
  - 1. Feeder independent culture of human embryonic stem cells. Teneille E. Ludwig et al. Nature Methods Vol. 3 No. 8 August 2006 637-646.
  - Roelandt P et al. Differentiation of rat multipotent adult progenitor cells to functional hepatocyte-like cells by mimicking embryonic liver development. Nat Protoc. 2010 Jul;5(7):1324-36.
- 4. Hu BY, Zhang SC. Differentiation of spinal motor neurons from pluripotent human stem cells. Nat Protoc. 2009;4(9):1295-304.
- Bigdeli N et al. Adaptation of human embryonic stem cells to feeder-free and matrix-free culture conditions directly on plastic surfaces. J Biotechnol. 2008 Jan 1;133(1):146-53.
- 3. Hu BY et al. Differentiation of human oligodendrocytes from pluripotent stem cells. Nat Protoc. 2009;4(11):1614-22. Epub 2009 Oct 15.
- Dravid G et al. Culture of human embryonic stem cells on human and mouse feeder cells. Methods Mol Biol. 2006;331:91-104.

# Stericup<sup>®</sup> E and Steritop<sup>®</sup> E Eco-Friendly Filter Units

### SUSTAINABLE SOLUTION

	Description	Membrane/Application	Pore Size (µm)	Receiver Bottle (mL)	Thread Size (mm)	Qty/Pk	Thomas No.
	Stericup <sup>®</sup> E-GP Millipore Express <sup>®</sup> PLUS		0.22	500	38	12	21A00J964
	Sterile Vacuum Filtration System	(PES)/fast filtration of tissue culture media and buffers		500	45	12	21A00J966
				1000	38	12	21A00J963
				1000	45	12	21A00J965
	Steritop <sup>®</sup> E-GP Sterile Vacuum	Millipore Express <sup>®</sup> PLUS (PES)/fast filtration of tissue	0.22	All Volumes	38	12	21A00J975
Filtration System	culture media and buffers			All voluities	45	12	21A00J976



### Stericup<sup>®</sup> E & Steritop<sup>®</sup> E Filter Systems

The new 'E' (eco-friendly) additions to the Stericup<sup>®</sup> family eliminate the plastic filter funnel entirely by threading directly onto the media bottle. Stericup<sup>®</sup> E and Steritop<sup>®</sup> E filter devices reduce environmental impact by cutting down on:

- Disposable plastic
- Hazardous waste
- Lab storage space requirements



Both Stericup<sup>®</sup> E and Steritop<sup>®</sup> E

virtually any commercial media

bottle or glass bottle

environmental impact

Stericup<sup>®</sup> E products use

significantly less packaging

made from materials that reduce

sterile filters thread directly onto

#### **Usage Guidelines**

- Choose a collar thread (38 mm or 45 mm) that is compatible with your glass or plastic media/ buffer bottle.
- The 38 mm thread is recommended for our media bottles and majority of other standard commercial media bottles.
- The 45 mm thread is recommended for wider neck media bottles.
- Use only glass or plastic bottles designed for vacuum applications. For the Steritop<sup>®</sup> E filter funnel, use a 45 mm threaded glass or plastic receiver bottle no larger than 2 liters.

#### Plastics\* Packaging\* Stericup<sup>®</sup> E Sterile filter Up to Up to 26% 20% Eliminates disposable filler funnel Steritop<sup>®</sup> E Sterile filter Up to Up to Eliminates disposable 48% 69% filler funnel & receiver bottle

#### Your eco-impact, by the numbers:

# Stericup® E and Steritop® E Filter Units Sustainability Checklist

	Stericup <sup>®</sup> E and Steritop <sup>®</sup> E filters thread directly onto any commercial media bottle or glass bottle:
	<ul> <li>Reduces plastic and hazardous waste.</li> </ul>
	• Frees-up storage in smaller tissue culture rooms, where space is at a premium.
	<ul> <li>Enhances laboratory compliance with institutional sustainability requirements—or a means for achieving individual environmental responsibility goals.</li> </ul>
ᠯ my green lab.	Stericup <sup>®</sup> E and Steritop <sup>®</sup> E filters have the Accountability, Consistency, and Transparency (ACT) Environmental Impact Factor Label, published by My Green Lab <sup>®</sup> , providing a score based around manufacturing, energy and water use, packaging and end-of-life. The ACT labelled products help labs choose sustainable life science products.
	Stericup <sup>®</sup> E and Steritop <sup>®</sup> E filters are packaged in individual, recyclable pouches for sterility.
22 HDPE	Stericup <sup>®</sup> E and Steritop <sup>®</sup> E package labels are made of recyclable plastic.
Unput Line Steritop*E Filterion and Steritop*E	Stericup $E^{\$}$ and Steritop <sup>®</sup> E user guides are accessible by scanning the QR code on the label, to reduce paper waste.
FSC FOREST FSC COUNCIL	Stericup <sup>®</sup> E and Steritop <sup>®</sup> E cardboard shipping boxes are FSC <sup>®</sup> -certified.

# Difference between Stericup<sup>®</sup> Quick Release and Stericup<sup>®</sup> E Filter Units

	Product	Funnel	Filter Collar	Receiver Bottle
	Stericup <sup>®</sup> Quick Release Filtration	<b>~</b>	~	~
<b>_</b>	Steritop® Quick Release Bottle-Top Filtration Units	<b>~</b>	~	
	Stericup® E Eco-Friendly Filtration and Storage Units Sustainable Solution		<b>~</b>	C
2	Steritop® E Eco-Friendly Bottle-Top Filtration Units Sustainable Solution		<b>~</b>	

# **Steriflip® Filter Units**

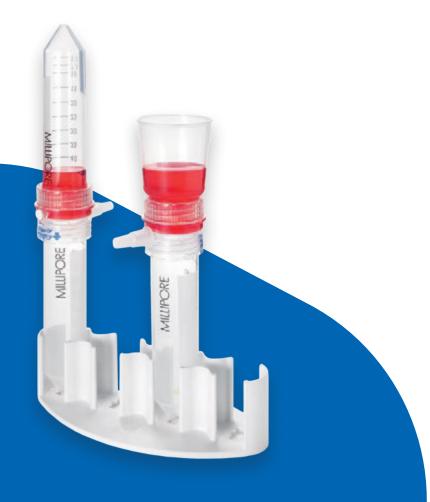
For filtering 10 mL to 50 mL volumes without sample transfer steps.

#### Filter up to 50 mL directly into a centrifuge tube

- Attach the device to a standard 50 mL centrifuge tube containing your sample, flip it over and apply vacuum
- Filtrate collects in the attached 50 mL tube
- Available with optional funnel accessory



Description	Membrane	Pore Size (µm)	Qty/Pk	Thomas No.
Steriflip®-GP Filter Unit	Millipore Express® PLUS (PES)	0.22	25	1208R45
Steriflip <sup>®</sup> -GV Filter Unit	Durapore <sup>®</sup> (PVDF)	0.22	25	1189Q64
Steriflip <sup>®</sup> -HV Filter Unit	Durapore <sup>®</sup> (PVDF)	0.45	25	1196U48
Steriflip <sup>®</sup> Steri-Strainer	Nylon Net	100	25	21A00J980
		60	25	21A00J979
		40	25	20A00Q976
		20	25	21A00J978
Accessory				
Steriflip <sup>®</sup> Funnel Attachment			25	1208R43



## **Sterile Millex® Syringe Filters**

Millex<sup>®</sup> syringe filters provide convenient sterilization of small volumes and are ideal for solutions such as antibiotics and tissue culture additives. Their unsurpassed quality and consistency of results has led to the development of many sample preparation methods that specify Millex<sup>®</sup> filters.

#### **Manufactured for reliable performance**

Manufacturing occurs in a controlled environment using an automated process. Sterile devices are provided with a certificate of quality.

#### **Faster flow rate**

33 mm Millex<sup>®</sup> filters have 20% more filter surface than 25 mm filters for significantly higher flow rate and throughput. The 33 mm Millex has the same hold-up volume as the 25mm Millex.

#### **Higher operating pressure**

With a maximum housing pressure of 150 psig (10 bar), solutions can be filtered faster.

#### Low extractables, low binding

A variety of membranes and housings ensure chemical compatibility with a range of samples and solvents

#### Research use only Millex® (RUO Millex®) Syringe Filters

RUO Millex® filters are for research use only and are NOT registered medical devices.

These sterile Millex<sup>®</sup> syringe filters are suitable for use in laboratory research.

#### Typical research laboratory applications include the sterile filtration of:

- Protein solutions
- Tissue culture media
- Additives, buffers, and water

The production of RUO Millex<sup>®</sup> use the same raw materials and manufacturing process as the medical device. There will be no change to device performance. The only differences are that the RUO Millex<sup>®</sup> filters are less expensive and are not registered medical devices.



# RUO Millex<sup>®</sup> Syringe Filters — Sterilized and individually packaged.

Description	Pore Size (µm)	Туре	Process Volume (mL)	Hold-up Volume (after air purge, µL)	Sterilization Method	Qty/Pk	Thomas No.
4 mm Diameter							
Durapore <sup>®</sup> (PVDF) Membrane	0.22	GV	1	< 10	EO	100	1211K42
	0.45	HV	1	< 10	EO	100	1211K49
13 mm Diameter							
Hydrophilic PTFE Membrane	0.2	LG	10	< 25	EO	100	1211K65
Durapore <sup>®</sup> (PVDF) Membrane	0.22	GV	10	< 25	EO	100	21A00M104
33 mm Diameter							
Millipore Express <sup>®</sup> PLUS (PES) Membrane	0.22	GP	200	< 100	RS	50	1211K91
Fast flow and low binding for cell culture media preparation						250	1211K95
	0.45	GP	200	< 100	RS	50	1211K96
						250	1211K95
Durapore <sup>®</sup> (PVDF) Membrane	0.1	VV	100	< 100	RS	50	1211K57
Lowest binding membrane for protein rich solutions	0.22	GV	100	< 100	RS	50	1211K47
for protein rich solutions						250	1211K45
	0.45	HV	100	< 100	RS	50	1211K53
						250	1211K51
Mixed Cellulose Esters (MCE) Membrane	0.22	GS	100	< 100	EO	50	1211K36
Most referenced general purpose membrane						250	1211K35
purpose memorane	0.45	HA	100	< 100	EO	50	1211K40
						250	1211K39
	0.8	AA	100	< 100	EO	50	1211K30
						250	1211K29

<sup>†</sup>EO = ethylene oxide; RS = radiosterilized



# Large-scale Sterile Filtration Devices

# **Sterivex® Filters**

#### Pressure-driven devices for filtering up to 2 L

Sterivex<sup>®</sup> filter units work with syringes, peristaltic pumps, or pressure vessels, and are designed to dispense into any storage container.



Description	Process Volume (mL)	Membrane	Pore Size (µm)	Fitting Outlet	Qty/Pk	Thomas No.
Sterivex®-GP Filter Units						
Sterivex <sup>®</sup> -GP Filter Unit	2000	Millipore Express®	0.22	Filling Bell	10	1208R77
		PLUS (PES)		Male Luer-Lok®	15	1208R78
				Male Nipple	15	1208R75
					50	1208R76
Sterivex <sup>®</sup> -GV Filter Units						
Sterivex <sup>®</sup> -GV Filter Unit	1000	Durapore <sup>®</sup> (PVDF)	0.22	Filling Bell	10	1208R81
				Male Luer-Lok®	15	1208R82
				Male Nipple	15	1208R79
					50	1208R80
Sterivex <sup>®</sup> -HV Filter Units						
Sterivex <sup>®</sup> -HV Filter Unit	1000	Durapore <sup>®</sup> (PVDF)	0.45	Filling Bell	10	1208R85
				Male Luer-Lok®	15	1208R86
				Male Nipple	15	1208R83
					50	1208R84

# **Stericap™ PLUS Filters**

#### Universal bottle-top devices for filtering 2 to 10 L

- Fits on any vacuum-rated bottle, 20 to 67 mm in diameter
- Vented to help prevent filter air lock
- Features fast-flowing, low protein binding Millipore Express<sup>®</sup> PLUS membrane
- Ideal for fast sterilization of tissue culture media, serum, buffers, or other biological solutions

Description	Membrane	Pore Size (µm)	Qty/Pk	Thomas No.
Stericap <sup>™</sup> PLUS Filter	Millipore Express <sup>®</sup> PLUS (PES)	0.22	10	1208R46

# Millex®-GP 50 mm Pump-Driven Filters

#### Sterilized and individually packed

Description	Pore Size (µm)	Туре	Process Volume (mL)	Hold-up Volume (after air purge, mL)	Sterilization Method	Qty/Pk	Thomas No.
50 mm Diameter							
Millipore Express®	0.22	GP50	4000	< 1	RS	10	1211K92
(PES) Membrane		GP50 with filling bell	_			10	1211K93
Glass Filter for Prefiltration	NA	AP	4000	<1	Autoclavable	10	1211K67

+EO = ethylene oxide



# **Steripak™ Filters**

#### Pump-driven filters for volumes up to 20 L

Steripak<sup>™</sup> filters are designed for larger scale pressure-driven filtration of tissue culture media, with or without serum. The units are single-use and come in two volume sizes. They are supplied sterile and ready to connect to a pump or pressure vessel.

Description	Membrane	Pore Size (µm)	Filter area, cm <sup>2</sup>	Qty/Pk	Thomas No.
Steripak <sup>™</sup> -GP10 Filter	Millipore Express <sup>®</sup> (PES)	0.22	100	3	1208R73
Steripak <sup>™</sup> -GP20 Filter	Millipore Express <sup>®</sup> (PES)	0.22	200	3	1208R74



# **Hydrophobic Filters for Gas Filtration**

Description	Application	Pore Size (µm)	Sterility	Inlet-Outlet Fitting	Qty/Pk	Thomas No.
25 mm Diameter Filt	ers					
Hydrophobic PTFE	Vacuum line protection and	0.2	Ethylene	FLL-MLS	50	1211K61
	gas filtration		oxide	FLL-MLL	50	1211K62
			Non-Sterile	FLL-MLS	50	1211K60
Hydrophobic PVDF	Transducer protector	0.22	Ethylene	FLL-MLS	50	1211K84
			oxide	FLL-MLL	50	1211K85
				FLL-MLL	50	1211K86
Pump-driven Millex®-	-FG50 50 mm Diameter Filters					
Hydrophobic PTFE	Vacuum line protection and gas filtration	0.2	Non-Sterile	Stepped Hose Barb with FLS	10	1211K71
					100	1211K70
				Stepped Hose Barb with FLS – 1/8 in. NPTM	10	1211K72
					100	1211K73
				1/8 in. NPTM	10	1211K76
					100	1211K75
		0.45	Non-Sterile	Stepped Hose Barb with FLS	10	1211K80
					100	1211K79
		1.0	Non-Sterile	Stepped Hose Barb with FLS	100	1211K68

FLL = Female Luer-Lok<sup>®</sup> FLS = Female Luer slip

MLL = Male Luer-Lok<sup>®</sup>

MLS = Male Luer slip

# Accessories for Stericup<sup>®</sup> and Steritop<sup>®</sup> Systems

For pressure-driven filtration (such as Steripak<sup>®</sup> and Sterivex<sup>®</sup>), pressure vessels and pressure peristaltic pumps are available. Please contact Technical Service for further information.

Description	Size	Qty/Pk	Thomas No.
Glass fiber prefilters	75 mm	100/pk	1211D04
Silicone rubber tubing, 3/16 in. (4.8 mm) ID, with adapter	4.5 ft (1.4 m)	1/pk	1211J06
Vacuum/Pressure Pump 115 V, 60 Hz	N/A	1/pk	1211H89
Vacuum/Pressure Pump 100 V, 50/60 Hz	N/A	1/pk	1211H88
Vacuum/Pressure Pump 220 V, 50 Hz	N/A	1/pk	1211H90
Millivac-Maxi Vacuum Pump, 230 V	N/A	1/pk	CHM02Y591
Millivac-Mini Vacuum Pump, 230 V	N/A	1/pk	1211H97
Millivac Mini Vacuum Pump, 115 V	N/A	1/pk	1211J02

# **Related Products: Multiwell Plates**

# **MultiScreen®<sub>HTS</sub> Filter Plates**

Automation-compatible MultiScreen<sup>®</sup> filter plates that contain a microporous membrane are ideal for clarifying samples or separating suspensions in diverse workflows, including sample clean-up prior to instrument analysis, removal of cellular debris, extraction of natural products and bead washing for immunoassay procedures.

Membrane	Pore Size	Туре	Well Number	Plate Color	Plate Material	Qty/Pk	Thomas No.
Hydrophilic Durapore <sup>®</sup> PVDF	0.22 µm	GV	96	Clear	Acrylic	10	CHM01T218
	0.45 µm	HV	96	Clear	Styrene	10	CHM01S919
	1.2 µm	BV	96	Clear	Styrene	10	CHM01T389
Hydrophobic	0.45 µm	IP	96	Clear	Acrylic	10	CHM01T038
Immobilon®-P PVDF	0.45 µm	IP	96	White	Acrylic	10	CHM01S487
Hydrophilic MCE	0.45 µm	MCE	96	Clear	Styrene	10	CHM01U009
	0.45 µm	MCE	96	White	Barex <sup>®</sup> /TiO2	10	CHM02L760

### **Millicell® Microporous Membrane-Based Cell Culture Plates**

Millicell<sup>®</sup> plates feature membranes that allow easy access to both the apical and basolateral sides of cells. This encourages three-dimensional growth and provides a more accurate *in vitro* model than traditional plastic plates. Both the 24-well and 96-well cell culture plates incorporate patented design features simplifying media exchange for high performance cell-based assays. The plates simplify handling of multiple samples simultaneously, maintain assay integrity, and prevent monolayer disruption during analysis. The assemblies include a choice of a multi-well or single-well feeder tray.

Membrane	Pore Size	Plate Material	Qty/Pk	Thomas No.
Millicell <sup>®</sup> -24 cell culture plate	24-well receiver tray and lid	PCF (5.0 μm)	5	CHM01T839
		PCF (8.0 μm)	5	CHM02L860
	24-well cell culture plate,	PCF (0.4 µm)	5	CHM01S956
	single-well feeder tray and lid	PET (1.0 μm)	5	CHM01W352
Millicell®-96 cell culture plate	96-well cell culture plate, 96-well receiver tray and lid	PCF (0.4 µm)	5	CHM01S423
	96-well cell culture plate, single-well feeder tray and lid	PCF (0.4 µm)	5	CHM01S298
		PET (1.0 μm)	5	CHM01T412





Preparation, Separation, Filtration & Monitoring Products



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PB3166EN00 Ver. 4.0 44891 10/2022