

Vacuum Filtration



Introduction

Vacuum Filter is used primarily in microbiological and analytical procedures that involve collecting a particulate (bacteria, precipitate, etc.) from a liquid suspension. Liquid poured into a funnel passes through a filter, which retains the particulate, and filtrate can be collected into a filter flask, directly or via a vacuum manifold. Applying vacuum reduces process time compared to gravity flow.

Multi-branch Manifold filter is particular design and produce for several samples filtrate at the same time. At present domestic laboratory filtrate liquid usually adopts the glass nature core, while this method only filtrates one sample once, and it has low speed, low efficiency, and less labor exertion. It is more convenience for the operator who needs to filtrate several samples at the same time.

Membrane Solutions supplies a wide range of vacuum filter holders, [Glass Solvent Filters](#), [Multiple Filtration Systems](#), and

Accessories. Select from glass or stainless steel assemblies with funnels holding from 15 to 1000 ml. MS® Vacuum filters can be sterilized by autoclave.

Application

- Widely used for chemistry analyse
- Biochemical-pharmaceutical sanitation test environment test
- Water quality analyse
- Foodstuffs and beverage test
- Science research and so on.
- Vacuum filter aqueous, organic or corrosive liquids for particulate contamination analysis.
- It is recommended for HPLC solvent filtration and it has the function of outgas to guarantee the clean of mobile phase and avoid the blockage of HPLC liquid flow path.

Features

Features and Property

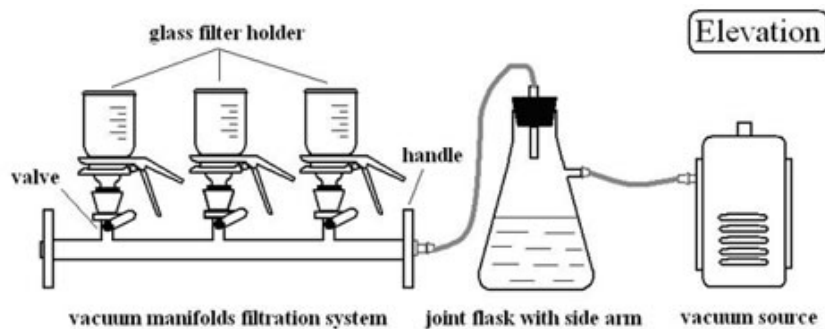
- This product is made of high-quality extra hard glass. It is sparking and crystal-clear. Its thickness is even.
- The performance of withstanding voltage and its leakproofness is very good. Its size agrees with the international standard size.

Therefore, it can be used for sterilization at high temperature and high pressure.

Multiple Vacuum Filtration Systems Feature

- Each holder have individual control valve, agility for use•convenience in antisepsis• high efficiency.
- Test three or six samples at the same time, high sensitivity, low false –positive, and easy to operation.

User Guide for Multiple Vacuum Filtration Systems



See Other Related Products

- [Filter Bag](#)
- [Cartridge Filter](#)
- [Microbiology Test Products](#)
- [Membrane Filter Products](#)
- [Syringe Filter Products](#)

Membrane Solutions

Vacuum Pump

Products Picture



VPJ0201



VPJ0332



VPJ0333



VPJ0501



VPJ0502



VPJ1001

Application Examples

- Vacuum filtration
- Vacuum distillation
- Vacuum drying
- On rotary evaporators
- To extract and transfer gases

Attachments

1. Vacuum gauge (-0.1Mpa) 1 piece
2. Connecting rubber pipe ($\Phi 7\text{mm} \times \Phi 12\text{mm} \times 800\text{mm}$) 1 piece

Features

- It can be in service under the condition of no working medium (no oil) and will not produce any pollution. Moreover, there is filtering material in the air exchange bin to guarantee the air clean.
- New technologies and materials are used in production. It is easy to move and can work smoothly, which can guarantee the ideal vacuum and high rate of air flowing.
- It adopts the operation containing no friction, producing no calories and having no friction exhausts. The diaphragm is made of Nitrile Rubber, which resists the corrosion and has long operating life.
- The self-cooling air draft system is designed in the body. This system can keep the machine continuously running for 24 hours.
- The design can be regulated by pressure to meet the requirements of vacuum or controllable steady air stream within certain range.
- The axletrees are classical, which are imported abroad. They have the features of steady running, low noise and high operating efficiency

*Membrane Solutions LLC.***Technique Data****1.VPJ0201****(Technique Parameter)**

Speed of Evacuation(l/m)	12	Working temperature of pump body	<55
Ultimate Pressure	300mbar	Noise Level(DB)	<50
Inlet(mm)	φ6	Overall Size L x W x H (mm)	195×98×156
Power of electrical engine(W)	Single phase.75	Weight(Kg)	4
Temperature of working environment(°C)	7—40	Pump Head	Nylon

2.VPJ0332**(Technique Parameter)**

Pumping speed:(L/Min)	20	Temp of the body(°C)	<55
Ultimate Pressure	<0.075Mpa/250mbar	Noise Level(DB)	<50
Inlet(mm)	φ6 (Silencer)	Dimensions (L x B x H) (mm)	235×140×210
Power (w)	200	Weight(Kg)	7.5
Air Changing Bin	Teflon coated	Working Temp(°C)	7—40
Voltage Rating	230Vac, 50Hz	Pump Head	1
Material of Diaphragm and valve	HNBR	Remark	Negative pressure

3.VPJ0333**(Technique Parameter)**

Pumping speed:(L/Min)	20	Temp of the body(°C)	<55
Ultimate Pressure	<0.095Mpa/50mbar	Noise Level (DB)	<50
Inlet(mm)	φ6(Silencer)	Dimensions (LxBxH) (mm)	282×130×210
Power(W)	250	Weight(Kg)	10
gas chamber	Teflon coated	Working Temp(°C)	7—40
Voltage Rating	230Vac, 50Hz	Pump Head	2
Material of Diaphragm and valve	HNBR	Remark	Negative pressure

4. VPJ0501**(Technique Parameter)**

Pumping speed:(L/Min)	30	Temp of the body(°C)	<55
Ultimate Pressure	250mbar	Noise Level(DB)	<50
Inlet(mm)/Outlet (mm)	φ6/φ6	Dimensions(L x B x H) (mm)	215×165×270
Power (w)	200	Weight(Kg)	8
gas chamber	Teflon coated	Working Temp(°C)	7—40
Voltage Rating	230Vac, 50Hz	Pump Head	1
Material of Diaphragm and valve	HNBR	Remark	Dual purpose of positive pressure and negative pressure

5.VPJ0502**(Technique Parameter)**

Pumping speed:(L/Min)	30	Temp of the body(°C)	<55
Ultimate Pressure	<0.095Mpa, 50mbar	Noise Level(DB)	<50
Inlet(mm)/Outlet (mm)	φ6/Silencer	Dimensions(L x B x H) (mm)	282×130×210
Power (w)	250	Weight(Kg)	10
Gas chamber	Teflon coated	Working Temp(°C)	7—40
Voltage Rating	230Vac, 50Hz	Pump Head	2
Material of Diaphragm and valve	HNBR	Remark	Negative pressure

6.VPJ1001**(Technique Parameter)**

Pumping speed:(L/Min)	60	Temp of the body(°C)	<55
Positive pressure	>30psi	Noise Level (DB)	<50
Ultimate Pressure	250mbar		
Inlet(mm)/Outlet (mm)	φ6/φ8	Dimensions(L x B x H)(mm)	282×155×210
Power (w)	250	Weight(Kg)	9
gas chamber	Teflon coated	Working Temp(°C)	7—40
Voltage Rating	230Vac, 50Hz	Pump Head	2
Material of Diaphragm and valve	HNBR	Remark	Dual purpose of positive pressure and negative pressure

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Attachments

1. Vacuum gauge (-0.1Mpa) 1 piece
2. Connecting rubber pipe ($\Phi 7\text{mm} \times \Phi 12\text{mm} \times 800\text{mm}$) 1 piece

Order Information

Item Number	Unit Price(US\$/set)	
	Qty<10pcs	Qty>10pcs
VPJ0201		
VPJ0332		
VPJ0333		
VPJ0501		
VPJ0502		
VPJ1001		

MS[®] Disposable Vacuum Filtration

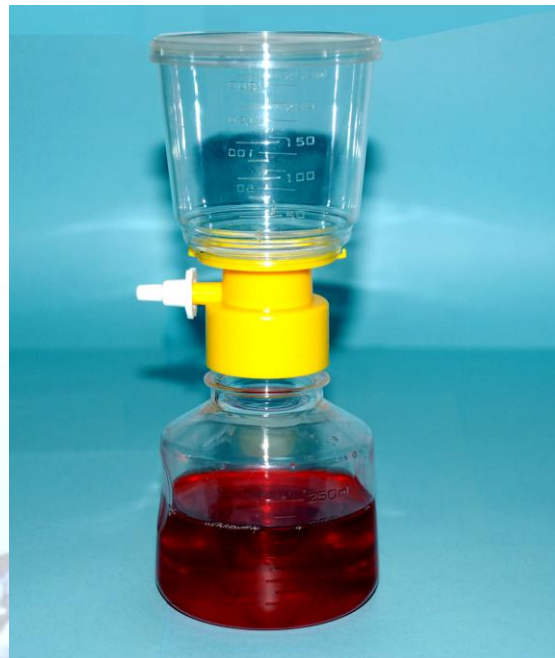
MS[®] disposable Vacuum Filtration units are very useful in large volume samples separation and purification for tissue culture media, biological fluids and fixation buffers.

The unit includes membrane filter, graduated funnel of clear polystyrene with polyethylene neck adapter and polystyrene reservoir bottle with a separate sterile polyethylene cap. Glass fiber pre-filter is available.

MS[®] filters feature adapters are color-coded to indicate membrane type for easy product identification.

Four membranes are available to meet all of your filtration needs: Mixed cellulose ester, Nylon, PES and PVDF.

Available in three styles: complete filter/storage unit and bottle top filters and the Reservoir bottle.



Application

- Ideal for filtration of tissue culture media, biological fluids, fixation buffers etc
- Cell culture media and other aqueous solutions
- Sterile filtration of solutions which can't be autoclaved
- Sterile filtration and clarification of difficult-to-filter aqueous solutions with a glass fiber pre-filter.



Features

- Available in of 0.22µm and 0.45µm
- Filter Diameter: 50mm membrane diameter
- Volume sizes: 125, 250 and 500ml
- Light weight and heavy wall construction
- Large knurls on the reservoir bottle cap for easy screw
- Reservoir bottles feature easy grip sides for improved handling, simplify tightening/ loosening and adjustments
- Designed wide and easy access bottle mouth for efficiently and stably pour out
- Engraved graduation ensure veracity
- Designed hose connector can fit multiplicate hose diameters
- Detergent-free, tissue culture compatible, and heat-sealed to the support grid to maximize flow rate, reduce foaming and protein denaturization
- Certified non- pyrogenic



Choosing guide

Membrane	Characteristics and typical application
PES	Provides fast flow rates and very low protein binding and extractables than cellulosic or nylon membranes, highly recommended for filtering and sterilization cell culture media, biological fluids of aqueous solutions.
MCE	Especially recommended for applications requiring low protein binding, such as filtering culture media containing sera.
Nylon	Naturally hydrophilic, protein binding, are recommended for filtering protein-free culture media for the retention of fine particles and microorganisms in HPLC/FPLC solutions
PVDF	With very low protein binding, high chemical resistance is used for filtration of buffers with DMSO, and retrovirus filtration
Glass fiber	Used a depth filter for prefiltration of solutions with very high particle loading capacity and are ideal for prefiltering dirty solutions and difficult to filters biological fluids such as sera, increase flow rates

Ordering information:

- Packaged in easy peel-to-open plastic bag, and receiver bottle cap is individually wrapped
- Each individual unit is lot-numbered for easy identification and tracking.
- Gamma irradiation sterilized

Technical Product Information

Item number	Funnel Capacity	Pore size(μm)	Membrane Material	Qty per Case
VFPPVDF122150	150ml Capacity Diameter:50mm Both Upper capacity and Receiver capacity is 150ml	0.22	PVDF	12
VFPPES122150			PES	12
VFPMCE122150			MCE	12
VFPPVDF145150		0.45	PVDF	12
VFPPES145150			PES	12
VFPMCE145150			MCE	12
VFPNY145150			Nylon	12
Item number	Funnel Capacity	Pore Size(μm)	Membrane Material	Qty per Case
VFPPVDF122250	250ml Capacity Diameter:50mm Both Upper capacity and Receiver capacity is 250ml	0.22	PVDF	12
VFPPES122250			PES	12
VFPMCE122250			MCE	12
VFPPVDF145250		0.45	PVDF	12
VFPPES145250			PES	12
VFPMCE145250			MCE	12
VFPNY145250			Nylon	12
Item number	Funnel Capacity	Pore Size(μm)	Membrane Material	Qty per Case
VFPPVDF122500	250ml Capacity Diameter:50mm Upper capacity 250ml and Receiver capacity is 500ml	0.22	PVDF	12
VFPPES122500			PES	12
VFPMCE122500			MCE	12
VFPPVDF145500		0.45	PVDF	12
VFPPES145500			PES	12
VFPMCE145500			MCE	12
VFPNY145500			Nylon	12



For some special experiment purposes or research outlay saving and etc, the Filter Upper Cups and Reservoir Bottle are also available respectively

Filter Funnel Bottle Top Cups				
Item number	Funnel Capacity	Pore Size(μm)	Membrane Material	Qty per Case
VFPPVDF122150F	150mL Capacity Diameter:50mm Filter top funnel	0.22	PVDF	24
VFPPE122150F			PES	24
VFPMCE122150F			MCE	24
VFPPVDF145150F		0.45	PVDF	24
VFPPE145150F			PES	24
VFPMCE145150F			MCE	24
VFPNY145150F			Nylon	24
Item number	Funnel Capacity	Pore Size(μm)	Membrane Material	Qty per Case
VFPPVDF122250F	250mL Capacity Diameter:50mm Filter top funnel	0.22	PVDF	24
VFPPE122250F			PES	24
VFPMCE122250F			MCE	24
VFPPVDF145250F		0.45	PVDF	24
VFPPE145250F			PES	24
VFPMCE145250F			MCE	24
VFPNY145250F			Nylon	24

Reservoir Bottles			
Item number	Bottle Capacity	Bottle Material	Qty per Case
VFP250B	250ml	PS	24
VFP500B	500ml	PS	24



Glass Fiber Pre-filters

Glass fiber pre-filters may be placed in the funnel on top of the membrane and secured by a convenient tab for difficult-to-filter solutions.

Recommended filter size GFB(1.0µm) and GFF(0.7µm) dependant on apparatus used. Must be ordered separately.

Item number	Description	Pack
SPGFB047100N	Glass Fiber Filter, Binder free, Pore:1.0(µm), Diameter:47(mm)	100pk
SPGFF047070N	Glass Fiber Filter, Binder free, Pore: 0.7(µm), Diameter:47(mm)	100/pk

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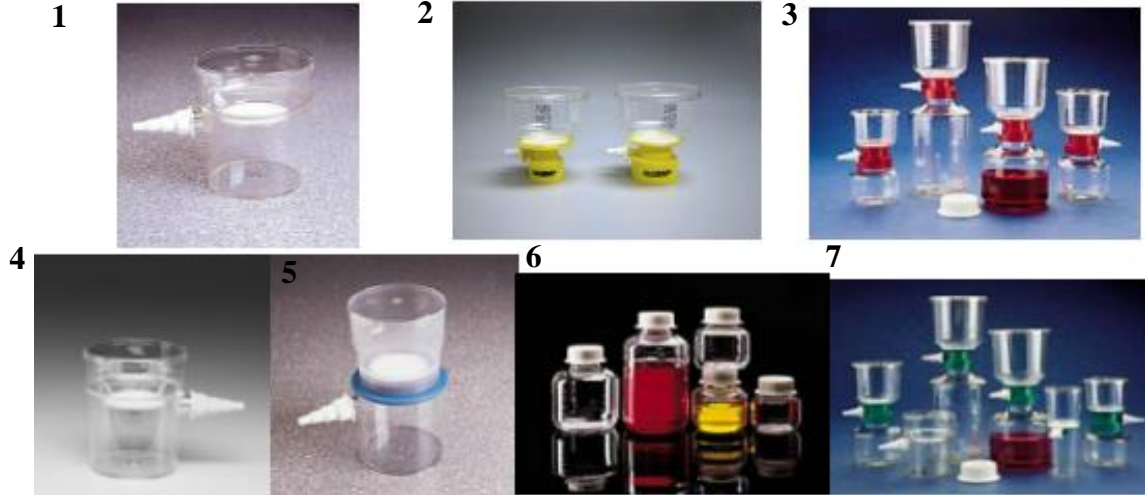
Membrane Solutions

USA

China



BottleTop Filters - Nalgene



1 Nalgene MF75 Sterilization Filter Units

2 Nalgene MF75 Bottle Top Vacuum Filters Surfactant-Free CA /Glass Bottles

3 Nalgene MF75 Tissue Culture Filter Units Nylon

4 Nalgene MF75 Vacuum Filter Units PES Membrane

5 Nalgene MF75 Filter Units Cellulose Nitrate

6 Nalgene MF75 Filter Unit Receivers

7 Nalgene MF75 Bottle Top Vacuum Filters Surfactant-Free CA /Complete



Nalgene FastCap Bottle Filters

Nalgene MF75 Tissue Culture Filter Units Nylon Membrane Sterile



Nalgene MF75 Tissue Culture Filter Units are designed for applications requiring low extractables. Nalgene MF75 Tissue Culture Filter Units feature 1 1/2-turn threaded screw closure that guarantees a leakproof seal and eliminates pH shift in receiver. Nalgene MF75 Tissue Culture Filter Units are naturally hydrophilic, tissue-culture grade nylon membrane exhibits less than 0.5% extractables by weight, contains no wetting agents, and is alcohol-resistant. Graduated polystyrene upper chamber and receiver. Nalgene MF75 Tissue Culture Filter Units side arm features a cellulosic vent plug and quick-disconnect tubing adapter. Filter cup is printed with catalog number, lot number, membrane material, pore size, and expiration date. Radiation sterile. Nalgene MF75 Tissue Culture Filter Units are certified nonpyrogenic and noncytotoxic. Note: For laboratory use only. Not for in vitro diagnosis or parenterals.

Nalgene Filter Units Cellulose Nitrate



Nalgene Filter Units Cellulose Nitrate are complete, presterilized, nontoxic, disposable filter units for membrane filter analysis. Nalgene receivers are made of polystyrene, with a cellulose nitrate membrane. Nalgene Filter Units Cellulose Nitrate uppers are made of polypropylene. After filtration, upper chamber can be easily twisted off of receiver. Nalgene Filter Units Cellulose Nitrate conforms to APHA standards for water-quality work. Nalgene Filter Units Cellulose Nitrate have multiple graduations on uppers; receivers are graduated from 20 to 115mL. Nalgene Filter Membranes are triton-free and nontoxic. Diameter: 47mm. Nalgene Filter units can be used to perform pressure filtrations. The Nalgene Filter Units Cellulose Nitrate 0.45 μ m size meets requirements for APHA Standard Methods and U.S. EPA water quality testing.

Nalgene MF75 Bottle Top Vacuum Filters



SFCA (surfactant-free cellulose acetate) membrane filters are much cleaner than standard cellulose acetate and are designed for vacuum filtration with glass media bottles. Use the
[Nalgene MF75 Bottle Top Vacuum](#)

[Filter](#) 0.2 μ m size for sterilization of aqueous solutions and culture media. Select the Nalgene MF75 Bottle

Top Vacuum Filter 0.45 μ m size for particle analysis, scintillation counting, prefiltration of aqueous solutions, and general cytology. Polystyrene bottle-top design features molded graduations and a support plate that minimizes foaming and eliminates the need for a separate filter pad. The Nalgene MF75 Bottle Top Vacuum Filter screws directly onto media bottles. Yellow collar Nalgene filter cup is labeled with lot number, catalog number, pore size, and expiration date. Certified radiation-sterilized, nonpyrogenic, and noncytotoxic. The quick-disconnect sidearm accepts 1/4 3/8" tubing.

Nalgene MF75 Filter Unit Receivers



NALGENE MF75 receivers feature an ergonomic design with tapered sides and grips for ease of handling. NALGENE MF75 receivers have a 45mm diameter closure and are designed for use with NALGENE MF75 series bottle-top filters and filter units. A 1 1/2-turn threaded screw closure guarantees a leakproof seal in these NALGENE MF75 and reduces pH shift in receivers. NALGENE MF75 have an integral no-drip lip facilitates pouring. NALGENE MF75 have an easy-to-read graduations on two sides. The NALGENE MF75 receivers have at least 20% extra head space for the addition of serum or other additives to the filtrate. NALGENE MF75 are noncytotoxic, nonpyrogenic and are radiation sterilized.

Nalgene MF75 Sterilization Filter Units



[Nalgene MF75 Sterilization Filter Units](#) are for easy, fast, sterile filtration of 115 1000mL volumes. Nalgene MF75 Sterilization Filter Units are instantly ready for biological filtration, cold sterilization, or cleanup of particulated solutions or buffers. Nalgene MF75 Sterilization Filter Units components separate easily for pouring. No need to transfer sterile filtrate to another container. NALGENE MF75 11/2-turn threaded screw closure guarantees leakproof seal and eliminates pH shift in receivers (except for 115mL size). Nalgene MF75 Sterilization Filter Unit receiver can be used to store filtrate. Graduations on uppers and receivers. Nalgene MF75 filter cup is printed with catalog number, lot number, membrane type, pore size, and expiration date. Nalgene MF75 Sterilization Filter Units are nontoxic, triton-free, preassembled, and radiation sterilized.

Nalgene MF75 Tissue Culture Filter Units



Nalgene MF75 Tissue Culture Filter Units are presterilized with surfactant-free cellulose acetate membranes are ideal for proteinaceous solutions. Nalgene MF75 Tissue Culture Filter Units feature a 11/2-turn threaded screw closure that guarantees a leakproof seal and eliminates pH shift in receivers. Nalgene membrane pore size, membrane type, lot number, catalog number, and expiration date are marked on the filter cup for easy identification. Yellow collar. Polystyrene receiver has tapered sides and grips for ease of handling. Nalgene MF75 Tissue Culture Filter Units wide base ensures benchtop stability. Nalgene MF75 Tissue Culture Filter Unit receiver also features molded graduations, quick-disconnect tubing adapter, and cellulosic vent plug. Adapter accepts 6.35 9.5mm (1/4 3/8") tubing. Padless membrane support plate minimizes foaming. Nalgene MF75 Tissue Culture Filter Units are certified sterile, noncytotoxic, and nonpyrogenic. Note: For laboratory use only. Not for in vitro diagnosis or parenterals.

Nalgene MF75 Vacuum Filter Units

PES Membrane



Nalgene MF75 Vacuum Filter Units are designed for vacuum filtration of liquid, these Nalgene MF75 Vacuum Filter Units are ideal for biological and pharmaceutical sterilization requirements. Nalgene MF75 Vacuum Filter Units come with either a Supor machV or standard polyethersulfone (PES) membrane. Supor machV PES membrane is an extremely clean, low-extractable, fast-flowing, and asymmetric membrane that provides excellent throughput and low protein binding of media and other solutions. The standard PES universal tissue culture membrane is inherently hydrophilic and exhibits low protein binding, low extractable levels, and fast flow rate. The 45µm pore size, 75mm diameter membranes are suitable for particle analysis, scintillation counting, prefiltration of aqueous solutions, and general cytology. Complete Nalgene MF75 Vacuum Filter Units come with a bottle-top filter and a receiver. Nalgene Bottle-top filters have side arms fitted with quick-disconnect tubing adapters and screw securely into 33mm or 45mm neck size bottles. Graduated upper chambers hold from 115 to 1000mL. Blue collar is printed with catalog number, membrane material, pore size, lot number, and expiration date. Nalgene MF75 Vacuum Filter Units are certified radiation-sterilized, noncytotoxic, and nonpyrogenic.

Nalgene FastCap Bottle Filter



The Nalgene Fastcap filter works on any bottle that has a neck opening of up to 53mm. The Nalgene FastCap Filter eliminates the need to use threaded glass media bottles. Place a Nalgene FastCap filter on bottle mouth, attach a vacuum line to the larger center vacuum hose link and your liquid media tube to the smaller tube link and start filtering. The

Nalgene FastCap filters up to 5 liters of liquid. Housing is blue polystyrene; the 90mm filter is made of PES (polyethersulfone) with a 0.2µm pore diameter. The Nalgene FastCap filter is packaged in individual hermetically sealed plastic bags. Nalgene FastCap filters are STERILE (gamma radiation sterilized). Nalgene FastCap filters are sold in individual units or a case of 10.

2009 Price List USD=AUDx0.85 Oct12,09 - **ASK for a QUOTE****Nalgene MF Bottle Filters - see Membrane Solutions for similar BT Filters/Vac-UFil**

	mL	Pore Size	Funn mm	Cap mm	NNI No.	AUD
Nylon MF75 Tissue Culture Sterile	150	0.2	50		150-0020 Case of 12	\$208.70
	150	0.45	50		150-0045 Case of 12	\$208.70
	250	0.2	50		153-0020 Case of 12	\$238.82
	250	0.45	50		153-0045 Case of 12	\$238.82
	500	0.2	75		151-4020 Case of 12	\$372.45
	500	0.2	90		163-0020 Case of 12	\$479.33
Filter Receiver	500				Each (500 ml)	\$83.74
	500	0.45	75		151-4045 Case of 12	\$372.45
	1000	0.2	75		154-0020 Case of 12	\$454.88
	1000	0.2	90		164-0020 Case of 12	\$552.24
Filter Receiver	1000				Each (1000ml)	\$96.45
	1000	0.45	75		154-0045 Case of 12	\$454.88
Glass Prefilters For 50 mm Diameter Membranes			50		DS02815000 Case of 100	\$191.87
Glass Prefilters For 75 mm Diameter Membranes			75		DS02817500 Case of 100	\$198.77
Glass Prefilters For 90 mm Diameter Membranes			90		DS02819000 Case of 100	\$283.78
Cellulose Acetate MF75	150	0.2	50		290-3320 Case of 12	\$141.58
	150	0.2	50		290-4520 Case of 12	\$141.58
	500	0.2	75		291-3320 Case of 12	\$198.43
	500	0.2	75		291-4520 Case of 12	\$198.43
	1000	0.2	90		292-3320 Case of 12	\$317.87
	1000	0.2	90		292-4520 Case of 12	\$317.87
	150	0.45	50		290-3345 Case of 12	\$141.58
	150	0.45	50		290-4545 Case of 12	\$141.58
	500	0.45	75		291-3345 Case of 12	\$198.43
	500	0.45	75		291-4545 Case of 12	\$198.43
MF75 Receiver Units 45mm	150				455-0150 Case of 24	\$148.42
	250				455-0250 Case of 24	\$166.61
	500				455-0500 Case of 12	\$106.94
	1000				455-1000 Case of 12	\$163.78
Cellulose Nitrate MF75	115	0.2	50		121-0020 Case of 6	\$899.65
					Pack of 12	\$314.38
	115	0.45	50		121-0045 Case of 6	\$899.65
					Pack of 12	\$314.38
	115	0.2	50		120-0200 Case of 6	\$1,000.88
					Pack of 12	\$349.71
	115	0.45	50		245-0045 Case of 6	\$1,000.88
					Pack of 12	\$349.78
	115	0.8	50		380-0080 Case of 6	\$1,002.03
					Case of 12	\$350.22
	150	0.2	50		125-0020 Case of 12	\$179.14
	150	0.45	50		125-0045 Case of 12	\$179.14
	150	0.8	50		125-0080 Case of 12	\$179.14
	250	0.2	50		126-0020 Case of 12	\$198.43
	250	0.45	50		126-0045 Case of 12	\$198.43
	250	0.8	50		126-0080 Case of 12	\$198.43
	500	0.2	75		450-0020 Case of 12	\$325.25
	500	0.45	75		450-0045 Case of 12	\$325.25

	500	0.8	75	450-0080	Case of 12	\$325.25
	1000	0.2	75	127-0020	Case of 12	\$440.13
	1000	0.45	75	127-0045	Case of 12	\$440.13
	1000	0.8	75	127-0080	Case of 12	\$440.13
S-F CA Tissue Culture	115	0.2	50	122-0020	Case of 6	\$899.62
					Pack of 12	\$314.38
	115	0.45	50	122-0045	Case of 6	\$899.62
					Pack of 12	\$314.38
	150	0.2	50	155-0020	Case of 12	\$179.10
	150	0.45	50	155-0045	Case of 12	\$179.10
	250	0.2	50	157-0020	Case of 12	\$196.42
	250	0.45	50	157-0045	Case of 12	\$196.42
	500	0.2	75	156-4020	Case of 12	\$325.28
	500	0.2	90	162-0045	Case of 12	\$394.98
					Each	\$69.06
	500	0.45	75	156-4045	Case of 12	\$325.28
	500	0.45	90	162-0045	Case of 12	\$394.98
					Each	\$69.06
	1000	0.2	75	158-0020	Case of 12	\$440.13
	1000	0.2	90	161-0020	Case of 12	\$481.66
	1000	0.45	75	158-0045	Case of 12	\$440.13
	1000	0.45	90	161-0045	Case of 12	\$481.87
			S-F CA Tissue Culture		Each	\$84.22
PES Vacuum Filter Units						
MF75						
Complete Units with						
Supor machV PES						
	115	0.2	50	524-0020	Case of 6	\$809.82
		0.2			Pack of 12	\$287.54
	150	0.2	50	565-0020	Case of 12	\$148.43
	250	0.2	50	568-0020	Case of 12	\$206.21
	500	0.2	75	566-0020	Case of 12	\$324.14
	500	0.2	90	569-0020	Case of 12	\$348.91
	1000	0.2	90	567-0020	Case of 12	\$438.43
Conical Filter Unit with						
Super machV PES						
	50	0.2	50	564-0020	Case of 12	\$143.25
BT Filter Only with Super						
machV PES						
	150	0.2	50	33 596-3320	Case of 12	\$141.01
	150	0.2	50	45 596-4520	Case of 12	\$141.01
	500	0.2	75	33 595-3320	Case of 12	\$197.34
	500	0.2	75	45 595-4520	Case of 12	\$197.34
	1000	0.2	90	33 597-3320	Case of 12	\$316.18
	1000	0.2	90	45 597-4520	Case of 12	\$316.18
BT Filter Only with Std						
PES						
	150	0.45	50	33 296-3345	Case of 12	\$141.06
	150	0.45	50	45 296-4545	Case of 12	\$141.06
	500	0.45	75	295-3345	Case of 12	\$197.36
	500	0.45	75	295-4545	Case of 12	\$197.36
Complete Units with Std						
PES						
	115	0.45	50	124-0045	Case of 12	\$809.95
					Pack of 12	\$283.02
	150	0.45	50	165-0045	Case of 12	\$148.42
	250	0.45	50	168-0045	Case of 12	\$194.40
	500	0.45	75	166-0045	Case of 12	\$324.13
	500	0.45	90	169-0045	Case of 12	\$367.34
	1000	0.45	90	167-0045	Case of 12	\$448.27