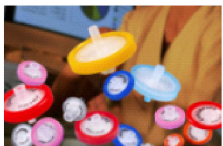


MS® Syringe Filter



Material	PES		
Diameter/mm	4/13/17/ 25/30	Pore Size/ µm	0.22/ 0.45
Features	High flow rate, Low extraction, Lowest protein binding.		
Application	<ul style="list-style-type: none"> Low protein adsorption, high drug compatibility, concept specially for biochemistry equipment, test equipment, pharmacy equipment and sterilization filtration equipment. 		



Material	MCE		
Diameter/mm	4/13/17/ 25/30	Pore Size/ µm	0.22/ 0.45
Features	QC for filter efficacy and housing integrity, Housing pressure endurance: up to 75psi (5.0bar).		
Application	<ul style="list-style-type: none"> Heat-sensitive drugs (Insulin ATP, coenzyme A) sterilization, water pollution index determination. 		



Material	Nylon		
Diameter/mm	4/13/17/ 25/30	Pore Size/ µm	0.22/ 0.45
Features	Hydrophilic property; Strong tenacity and absorbability		
Application	<ul style="list-style-type: none"> Electronic filtration, microelectronic filtration, tissue culture medium filtration, liquid filtration, beverage filtration, high-purity chemical products, and aqueous solutions. 		



Material	PVDF		
Diameter/mm	4/13/17/ 25/30	Pore Size/ µm	0.22/ 0.45
Features	Good heat endurance and chemical stability, strong hydrophobicity.		
Application	<ul style="list-style-type: none"> Hydrophobic PVDF: gas filtration, vapor filtration, high-temperature liquid filtration. Hydrophilic PVDF: purification and filtration of tissue culture medium, sterilization filter solvent filtration like additive filtration, chemical row material filtration, aseptic processing of reagent, high-temperature solvent filtration. 		



Material	PTFE		
Diameter/mm	4/13/17/ 25/30	Pore Size/ µm	0.22/ 0.45
Features	<ul style="list-style-type: none"> Hydrophobic PTFE: Broad chemical compatibility; Strong chemical stability. Hydrophilic PTFE: Low protein binding; Accurate analysis HPLC certified for low levels of UV-absorbing extractable; High flow rates with minimal aqueous extractable 		
Application	<ul style="list-style-type: none"> Filtration for all the organic solvents, specially for the strong solvent which other membranes can not tolerate. 		



Material	CA		
Diameter/mm	4/13/17/ 25/30	Pore Size/ µm	0.22/ 0.45
Features	Naturally hydrophilic, low protein binding, uniform pore size structure		
Application	<ul style="list-style-type: none"> Protein and enzyme filtration, sterilization Biological fluid filtration sterilization Tissue culture media sterilization Diagnostic cytology Receptor binding studies Enhanced recovery of fastidious gram positive organisms 		



Material	GF		
Diameter/mm	4/13/17/ 25/30	Pore Size/ µm	0.22/ 0.45
Features	Excellent compatibility; High dirt-handling capacity.		
Application	<ul style="list-style-type: none"> General laboratory filtration, air and water pollution monitoring, biological sediment filtration 		

MS® SPE Column



Materials	Silica-based/ Polymer-based/ Adsorptive material	Parameter	100mg/1mL 200mg/3mL 500mg/3mL 500mg/6mL 1000mg/6mL
Features	High purity silica gel Even distribution Good reproducibility, and consistency		
Application	Solid-phase extraction (SPE) is a separation process by which compounds that are dissolved or suspended in a liquid mixture are separated from other compounds in the mixture according to their physical and chemical properties. Analytical laboratories use solid phase extraction to concentrate and purify samples for analysis. Solid phase extraction can be used to isolate analytes of interest from a wide variety of matrices, including urine, blood, water, beverages, soil, and animal tissue.		

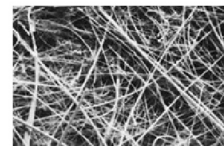
MS® Membrane Filter



Material	PES/MCE/Nylon/PVDF/Hydrophobic PTFE/Hydrophilic PTFE/PP/CA/GF/PC		
Diameter/mm	13,25,37,47,90 ,142,293	Pore Size/ µm	0.05- 10
Application	Large volume samples separation and purification for tissue culture media, biological fluids and fixation buffers		

Features

PES: Inherently hydrophilic, Low protein binding
MCE: High porosity, Biologically inert with good thermal stability
Nylon: Hydrophilic, High strength and heat resistance, consistency
PVDF: Wide chemical compatibility, Excellent mechanical properties; Hydrophobic PTFE, Broad chemical compatibility, Strong chemical stability; Hydrophilic PTFE, Hydrophilic, Broad chemical compatibility, Low extraction; PP, Hydrophobic, Highly porous membrane, Wide chemical compatibility
CA: Naturally hydrophilic, Low protein binding, uniform pore size structure
GF: Excellent compatibility, High dirt-handling capacity
PC: Precise pore sizes and pore distribution, Excellent chemical resistance and thermal stability



Glass Fiber GF A

Highly efficient for general laboratory filtration
 Clarification of buffer and reagent solutions
 Corresponds to many international standards for air and water pollution monitoring

Grade GF B	Thicker than GF A with higher wet strength and significantly increased loading capacity, suitable for filtration of large volumes Pre-filter for membranes Filtration of suspended solids in water/waste water analysis
Grade GF C	The standard filter in many parts of the world for the collection of suspended solids in potable water and natural and industries waste Widely used for cell harvesting, liquid scintillation counting and bining assays where more loading capacity is required
Grade GF D	Universal membrane pre-filter material Filtration in food industry
Grade GF F	GF F is the material upon which the EPA method TCLP 1311 for Toxicity Use for filtering extremely fine precipitates such as protein, nucleic acid, or serum precipitates
Grade GF H	Suitable for suspended solid analysis Cell harvesting Air pollution control
Grade GF 6	Suitable for very fine particles Removing protein from difficult-to-filter beers Determination of filtration substance and the residence on ignition
Grade GF 8 and Grade GF 9	Used in the filtration of coarse particles Determination of PCB, DDE, DDT, furans and dioxins in the air Environmental analysis Membrane pre-filter
Grade GF 10	Used in the filtration of coarse particles Weighing aid for infrared weighing A roll filter in automatic air filtration units

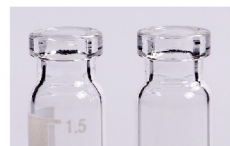
MS® sample vials

2mL Autosampler Vials for HPLC



Design of the Neck	8-425/9-425/10-425/Crimp top/ Snap top		
Volume	2mL	Dimension	32*11.6 mm
Type of Glass Available	Type I, 33 expansion glass(Clear)		
Instrument	Type I, 51 expansion glass(Amber)		

Assembled Caps and Septa for 2mL Autosampler Vials



Design of the Neck	8-425/9-425/10-425	Crimp top/ Snap top
Material	Polyethylene	Aluminum Polyethylene
Septa	1. Pre-slit Blue PTFE/White Silicone Septa 2. Red PTFE/White Silicone Septa 3. White PTFE/Red Silicone Septa	

Headspace Vials

Design of the Neck	Volume	Top	Bottom	Dimension
18mm Screw top*	10mL	Flat	Flat/Round	46*22.5mm
	20mL		Flat/Round	75*22.5mm
20mm Crimp top	10mL	Flat	Flat/Round	46*22.5mm
	10mL		Bevelled	
	20mL	Bevelled	Flat/Round	75*22.5mm
	20mL		Flat/Round	

* Suitable for: CTCCombiPAL(Varian, Gerstel, Atas, Shimadzu), PerkinElmer, Agilent

Caps and Septas for Headspace vials

Design of the Neck	Type of Cap	Septa
18mm Screw top	Magnetic Cap	Blue PTFE/White Silicone Septa
20mm Crimp top	Aluminium Cap	White PTFE/Nature Silicone Septa
	Magnetic Cap	Blue PTFE/White Silicone Septa

Screw Vials for Storage



Design of the Neck	24-400
Volume	20/30/40mL
Type of Glass	Type I, 33 expansion glass(Clear) Type I, 51 expansion glass(Amber)
Dimension	57*27.5/72.5*27.595*27.5

Assembled Caps and Septa for Storage Vials

Design of the Neck	24-400
Material	PE, center hole/PE, closed top
Septa	White PTFE/Nature Silicone Septa

About us

Membrane-Solutions LLC is a filtration company focuses on advanced membrane technology. People-oriented principle, qualified filtration products, excellent management concept and sales mode are highly appreciated by MS, who is devoted in improvement of developing filtration field.

MS has moved into China since 2005. And now, with a plant and a R&D base in Nantong, three sales branches in Nantong, Shanghai, and Wuhan, respectively, MS starts its aggressively developing strategy in Chinese filtration field. In 2010, HQ from Texas, America further reinforced investment in China, which means China becomes an important part of MS global development. According to perfect filtration products and solutions, MS provides variety of services for customers from different walks of life. At present, MS products are widely applied in highly developed market, such as electronic and medical purification field, civil and industrial and municipal water treatment, etc.

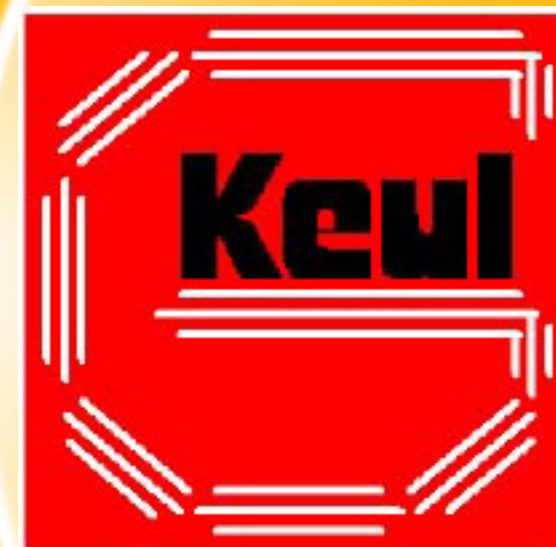
MS will continue to make effort in solving and challenging difficulties in water treatment on the basis of sustainable development. We will make our social contribution through satisfying customer's requirement on clean water, high energy efficiency, and environmental protection.

MS Advantage

- Close relations with customers
- Continuously devotion to R&D
- Mastery for various production craft and technology
- High quality and value products
- Global supply chain and customer service
- Sustainable and stable product supply



STAY PURE



Günter Keul GmbH
 Von-Langen-Weg 10
 D-48565 Steinfurt
 Tel.: 02551/2098
 Fax.: 02551/80883
 Email: info@keul.de