Consistent Performance. Maximum value.

Whatman™ Uniflo™ Syringe Filters

Now extended to include sterile 13 mm and 25 mm syringe filters

Whatman Uniflo Syringe Filters are disposable filter units designed to provide clean filtrate from small volumes up to 100 mL. They are available in a variety of membrane choices with a polypropylene overmold housing. Whatman Uniflo syringe filters are available with:

- 13 or 25 mm diameters
- 0.22 µm or 0.45 µm pore sizes
- Sterile or non-sterile options
- Individual printing on the filter for easy identification
- Bench top space saving packaging

Filter Media	Typical Application
Nylon	Aqueous and/or organic samples; hydrophilic
PES	Aqueous samples
PTFE	Organic based samples, Hydrophobic membrane
PVDF	Aqueous and/or organic based samples; low protein binding membrane

Nylon Membrane:

Nylon membrane is hydrophilic and is a good choice for aqueous and/or aqueous-organic samples. The membrane offers good chemical resistance to most common HPLC solvents, however it has limited resistance to acids, bases, halogenated hydrocarbons, aldehydes and strong oxidising agents. The most common application is HPLC sample filtration.

Polyethersulfone (PES) Membrane:

Polyethersulfone membrane provides durability, high temperature resistance, good chemical compatibility and low protein absorption. It is particularly suitable for filtration of serum, plasma and tissue culture solutions as well as other protein containing solutions where minimal adsorptive protein loss is desired.

Polytetrafluoroethylene (PTFE) Membrane:

Polytetrafluoroethylene membrane is hydrophobic and will not allow water to pass without high pressures. Aqueous solutions may be filtered if the membrane is initially "wetted" with alcohol or another appropriate solvent. Polytetrafluoroethylene membrane will stop aqueous aerosols in gas streams.

Polyvinylidene Difluoride (PVDF) Membrane:

Polyvinylidene Fluoride membrane is a suitable choice for most HPLC sample preparation applications. The membrane is slightly hydrophobic with low water breakthrough values. It offers good chemical resistance to all common HPLC solvents.

Integrity Test Data

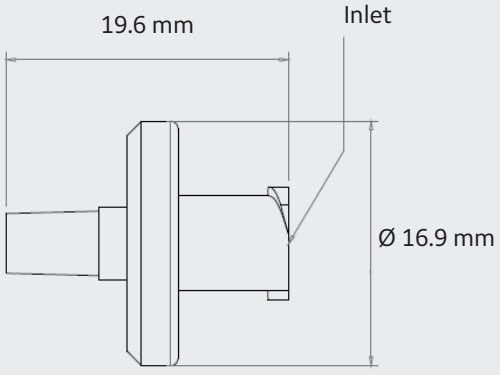
Description	Pore Size Microns	Minimum Bubble Point (psi)
Nylon	0.22	29.0
Nylon	0.45	20.0
Polyethersulfone	0.22	40.0
Polyethersulfone	0.45	33.0
Polytetrafluoroethylene*	0.22	10.0
Polytetrafluoroethylene*	0.45	6.0
Polyvinylidene Diofluoride	0.22	39.0
Polyvinylidene Diofluoride	0.45	17.5

* *Bubble point determined with 95% Ethanol (v/v), all others determined with water*

Technical Data

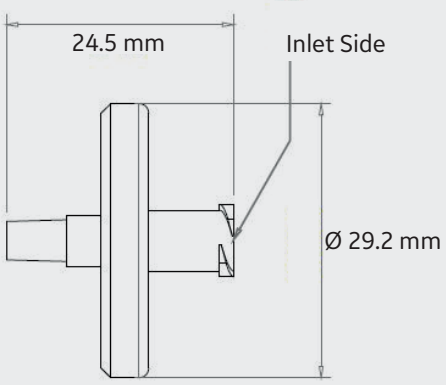
Uniflo 13 mm Syringe Filters

Dimensions:	19.6 mm × 16.9 mm
Filtration Area:	0.88 cm²
Maximum Operating Pressure:	67.5 psi
Housing:	Polypropylene
Volume "Hold Up":	≤ 50 µl after air purge
Flow Direction:	Flow should enter from inlet
Connectors:	Inlet - Female Luer Lock (FLL) Outlet - Male Luer (ML)
Sterilization:*	Autoclave at 121°C at 15 psi for 20 minutes
Biosafe:	Polymer grade and membrane types meet the USP test requirements (for Class VI Plastics)
Filter Media:	See chart on last page



Uniflo 25 mm Syringe Filters

Dimensions:	24.5 mm × 29.2 mm
Filtration Area:	3.45 cm²
Maximum Operating Pressure:	67.5 psi
Housing:	Polypropylene
Volume "Hold Up":	≤ 100 µl after air purge
Flow Direction:	Flow should enter from inlet
Connectors:	Inlet – Female Luer Lock (FLL) Outlet – Male Luer (ML)
Sterilization:*	Autoclave at 121°C at 15 psi for 20 minutes
Biosafe:	Polymer grade and membrane types meet the USP test requirements (for Class VI Plastics)
Filter Media:	See chart on last page



* *Non-sterile versions only*

Chemical compatibility of membranes and housings

Solvent	NYL	PES	PTFE**	PVDF
Acetic acid, 5%	R	R	R	R
Acetic acid, glacial	LR	R	R	R
Acetone	R	NR	R	NR
Acetonitrile	R	NR	R	R
Ammonia, 6N	R	R	R	LR
Amyl acetate	R	LR	R	LR
Amyl alcohol	R	NR	R	R
Benzene*	LR	R	R	R
Benzyl alcohol*	LR	NR	R	R
Boric acid	LR		R	R
Butyl alcohol	R	R	R	R
Butyl chloride*	NR		R	R
Carbon tetrachloride*	LR	NR	R	R
Chloroform*	NR	NR	R	R
Chlorobenzene*	NR	NR	R	R
Citric acid	LR	R	R	R
Cresol*	NR	NR	R	NR
Cyclohexanone	NR	NR	R	R
Cyclohexane*	NR	NR	R	R
Diethyl acetamide	R		R	NR
Dimethyl formamide	R	NR	R	NR
Dioxane	R	LR	R	LR
DMSO	R	NR	R	LR
Ethanol	R	R	R	R
Ethers*	R	R	R	LR
Ethyl acetate	R	NR	R	NR
Ethylene glycol	R	R	R	R

Solvent	NYL	PES	PTFE**	PVDF
Formaldehyde	R	R	R	R
Freon TF*	NR	R	R	R
Formic acid	NR	R	R	R
Hexane	R	R	R	R
Hydrochloric acid, conc*	NR	R	R	R
Hydrofluoric acid*	NR		R	R
Isobutyl alcohol	R		R	R
Isopropyl alcohol	R		R	R
Methanol	R	R	R	R
Methyl ethyl ketone	R	NR	R	NR
Methylene chloride*	NR	NR	R	R
Nitric acid, conc*	NR	NR	R	R
Nitric acid, 6N*	NR	LR	R	R
Nitrobenzene*	LR	NR	R	R
Pentane*	R	R	R	R
Perchloro ethylene*	LR	NR	R	R
Phenol 0.5%	NR	NR	R	R
Pyridine	LR	NR	R	NR
Sodium hydroxide, 6N	LR	R	R	NR
Sulfuric acid, conc*	NR	NR	R	NR
Tetrahydrofuran*	R	NR	R	R
Toluene*	LR	NR	R	R
Trichloroethane*	LR	NR	R	R
Trichloroethylene*	NR	NR	R	R
Water	R	R	R	R
Xylene*	LR	LR	R	R

R = Resistant; LR = Limited Resistance; NR = Not Recommended

* *Short-term resistance of housing*
The above data is to be used as a guide only. Testing prior to application is recommended.

** *Membrane may need pre-wetting with isopropanol/methanol if filtering a polar liquid*

Ordering Information

	Description	Pore size (µm)	Pack size	Membrane	Product code
Non-Sterile	Whatman Uniflo, Non-sterile, 13 mm	0.22	500	PVDF	9909-1302
	Whatman Uniflo, Non-sterile, 13 mm	0.45	500	PVDF	9909-1304
	Whatman Uniflo, Non-sterile, 25 mm	0.22	500	PVDF	9909-2502
	Whatman Uniflo, Non-sterile, 25 mm	0.45	500	PVDF	9909-2504
	Whatman Uniflo, Non-sterile, 13 mm	0.22	500	Nylon	9910-1302
	Whatman Uniflo, Non-sterile, 13 mm	0.45	500	Nylon	9910-1304
	Whatman Uniflo, Non-sterile, 25 mm	0.22	500	Nylon	9910-2502
	Whatman Uniflo, Non-sterile, 25 mm	0.45	500	Nylon	9910-2504
	Whatman Uniflo, Non-sterile, 13 mm	0.22	500	PTFE	9911-1302
	Whatman Uniflo, Non-sterile, 13 mm	0.45	500	PTFE	9911-1304
	Whatman Uniflo, Non-sterile, 25 mm	0.22	500	PTFE	9911-2502
	Whatman Uniflo, Non-sterile, 25 mm	0.45	500	PTFE	9911-2504
	Whatman Uniflo, Non-sterile, 13 mm	0.22	500	PES	9912-1302
	Whatman Uniflo, Non-sterile, 13 mm	0.45	500	PES	9912-1304
	Whatman Uniflo, Non-sterile, 25 mm	0.22	500	PES	9912-2502
	Whatman Uniflo, Non-sterile, 25 mm	0.45	500	PES	9912-2504
Sterile	Whatman Uniflo, sterile, 25 mm	0.22	45	PVDF	9913-2502
	Whatman Uniflo, sterile, 25 mm	0.45	45	PVDF	9913-2504
	Whatman Uniflo, sterile, 25 mm	0.22	45	PES	9914-2502
	Whatman Uniflo, sterile, 25 mm	0.45	45	PES	9914-2504
	Whatman Uniflo, sterile, 25 mm	0.22	200	PES	9915-2502
	Whatman Uniflo, sterile, 25 mm	0.45	200	PES	9915-2504
	Whatman Uniflo, sterile, 13 mm	0.22	100	PES	9916-1302
	Whatman Uniflo, sterile, 13 mm	0.45	100	PES	9916-1304

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