FILTER TECHNOLOGY

DIAFIL
SYRINGE FILTERS
PRODUCT COLLECTION

diafil

FILTER TECHNOLOGY

diafil

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Syringe Filter Information

A syringe filter generally consists of a plastic housing with a membrane which serves as a filter. The fluid to be purified may be cleaned by drawing it up the syringe through the filter. The following chart is designed to help in selecting the correct filter for your project.

Syringe Filter Products

Diameter	15 mm		25 mm		30 mm	
Pore Size	0.2 µm	0.45 µm	0.2 µm	0.45 µm	0.2 µm	0.45 µm
Filter Inlet	Female Luer-Lock (FLL)		Female Luer-Lock (FLL)		Female Luer-Lock (FLL)	
Filter Outlet	Male Luer-Slip / Mini Tip (MLS / MT)		Male Luer-Slip (MLS)		Male Luer-Slip (MLS)	
Pre-Filter (V)	Available		Available		Available	
Sterile (S)	Optional		Optional		Optional	
Version	Ultrasonic Welded (USV) or Ring Version (RV)		Ultrasonic Welded (USV) or Ring Version (RV)		Ultrasonic Welded (USV) or Ring Version (RV)	

Other versions available upon request

Choosing your Syringe Filter

Choosing the Proper Pore Size	
Cleaning Operation	**Optimal Pore Size**
Sterile Filtration	0.2 µm
Thorough Cleaning	0.45 µm
Clear Filtration	1 - 2 µm
Pre-Filtration	5 µm

Pressure of Syringe Volumes	
Syringe Volume	**Pressure Bar / PSI**
1 ml	10 / 150
3 ml	7.0 / 100
5 ml	5.0 / 75
10 ml	3.5 / 50
20 ml	2 / 30

If solutions are difficult to filter, higher pressures may be necessary to force the liquid through the fi lter. The table above has been compiled to estimate the pressures required and to determine corresponding filters.

Choosing the Proper Diameter	
Filter Diameter	**Volume to be Filtered**
13 mm	1 - 10 ml
25 mm	10 - 100 ml
30 mm	> 100 ml (fast filtration)

Deviations from the specified volumes can occur depending on the particle charging of the liquid to be filtered

Membrane Selection

The following chart will help you choose the appropriate membrane material for your syringe filter. If you have any questions or are unsure which membrane material is appropriate for your task, please contact us (see back cover for your country).

Water Soluble - Aqueous

Mechanically Challenging Alkaline Samples	Biological Samples High Protein Adsorption		Biological Samples Low Protein Adsorption			
Nylon (NY)	Mixed Cellulose Esters (MCE)	Nitrocellulose (NC)	Cellulose Acetate (CA)	Polyethersulfone (PES)	Polyvinylidenfluorid e (PVDF)	Regenerated Cellulose (RC)

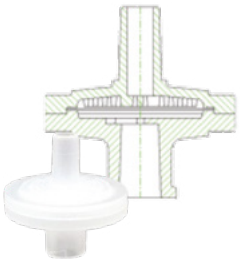
Organically Soluble

Organic Solvent				Partial Organic Solvent			
NON POLAR				POLAR			
Nylon (NY)	Polyvinylidenfluoride (PVDF)	Polyethylene (PE)	Polytetrafluorethylene (PTFE)	Polyethersulfone (PES)	Polyester (PET)	Regenerated Cellulose (RC)	Cellulose Acetate (CA)

Gaseous

Polyethylene (PE)	Polytetrafluorethylene (PTFE)	Strong Oxidizing Gases	
		Polytetrafluorethylene (PTFE)	

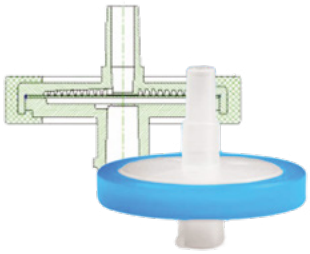
Using Syringe Filters



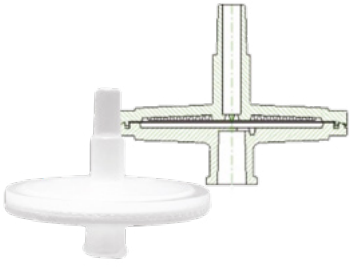
15 mm (USV)	
Housing Material	Polypropylene
Total Filter Volume	0.335 ml
Dead Volume	< 25 µl
Filter Area	177 mm²
Max Op. Pressure	7 Bar
Inlet	FLL
Outlet	MLS

15 mm (MT - USV)	
Housing Material Polypropylene	Polypropylene
Total Filter Volume	0.335 ml
Dead Volume	< 25 µl
Filter Area	177 mm²
Max Op. Pressure	7 Bar
Inlet	FLL
Outlet	MT

25 mm (USV)	
Housing Material	Polypropylene
Total Filter Volume	0.6 ml
Dead Volume	< 65 µl
Filter Area	490 mm²
Max Op. Pressure	7 Bar
Inlet	FLL
Outlet	MLS



25 mm (RV)	
Housing Material	Polypropylene
Total Filter Volume	0.6 ml
Dead Volume	< 65 µl
Filter Area	490 mm²
Max Op. Pressure	7 Bar
Inlet	FLL
Outlet	MLS



30 mm (USV)	
Housing Material	Polypropylene
Total Filter Volume	0.864 ml
Dead Volume	< 170 µl
Filter Area	707 mm²
Max Op. Pressure	6 Bar
Inlet	FLL
Outlet	MLS

30 mm (RV)	
Housing Material	Polycarbonate
Total Filter Volume	0.864 ml
Dead Volume	< 170 µl
Filter Area	707 mm²
Max Op. Pressure	6 Bar
Inlet	FLL
Outlet	MLS

Syringe Filter Membrane Compatibility

Use the information in this table to determine the ability of a specific syringe filter to withstand exposure to a solvent.
All concentrations are 100% unless noted.

LEGEND

C = Compatible
LC = Limited Compatibility
NC = Not Compatible (Not Recommended)
ND = No Compatibility Data Available

NY = Polyamide Nylon
PTFE = Polytetrafluorethylene (Hydrophobic)
PVDF = Polyvinylidene Fluoride
CA = Cellulose Acetate
RC = Regenerated Cellulose
PE = Polyethylene
MCE = Cellulose Mixed Ester
PES = Polyethersulfone

ChemNCal								
Acids	**NY**	**PTFE**	**PVDF**	**CA**	**RC**	**PE**	**MCE**	**PES**
Acetic, Glacial	C	C	C	C	C	C	NC	C
Acetic, 25%	NC	C	C	NC	NC	C	LC	C
Hydrochloric, concentrated	NC	C	C	NC	NC	C	NC	C
Sulfuric, concentrated	NC	C	NC	NC	NC	C	NC	NC
Sulfuric, 25%	NC	C	C	NC	LC	C	LC	ND
Nitric, concentrated	NC	C	C	NC	NC	C	NC	NC
Nitric, 25%	NC	C	C	NC	NC	C	LC	LC
Phosphoric, 25%	NC	C	ND	C	LC	C	LC	ND
Formic, 25%	NC	C	ND	LC	C	C	C	C
Trichloroacetic, 10%	NC	C	ND	C	C	C	ND	ND
Acids	**NY**	**PTFE**	**PVDF**	**CA**	**RC**	**PE**	**PET**	**PES**
Methanol, 98%	NC	C	ND	C	C	C	ND	ND
Ethanol, 98%	C	C	C	C	C	C	NC	C
Ethanol, 70%	LC	C	C	LC	C	C	NC	C
Isopropanol	C	C	C	C	C	C	C	C
n-Propanol	C	C	C	C	C	C	C	C
Amyl Alcohol (Butanol)	C	C	C	C	C	C	C	C
Benzyl Alcohol	C	C	C	LC	C	C	LC	NC
Ethylene Glycol	C	C	C	C	C	C	LC	C
Propylene Glycol	C	C	C	LC	C	C	ND	ND
Glycerol	C	C	C	C	C	C	C	ND
Alkalis	**NY**	**PTFE**	**PVDF**	**CA**	**RC**	**PE**	**PET**	**PES**
Ammonium Hydroxide, 25%	C	C	LC	C	LC	C	LC	C
Sodium Hydroxide, 3N	C	C	C	NC	LC	C	NC	C
Amines & Amides (Solvents with Nitrogen)								
	NY	**PTFE**	**PVDF**	**CA**	**RC**	**PE**	**PET**	**PES**
Dimethyl Formamide	LC	C	NC	NC	LC	C	NC	NC
Diethylacetamide	C	C	ND	NC	C	ND	ND	ND
Triethanolamine	C	C	ND	C	C	ND	ND	ND
Aniline	ND	C	ND	NC	C	ND	ND	ND
Pyridine	C	C	C	NC	C	LC	NC	NC

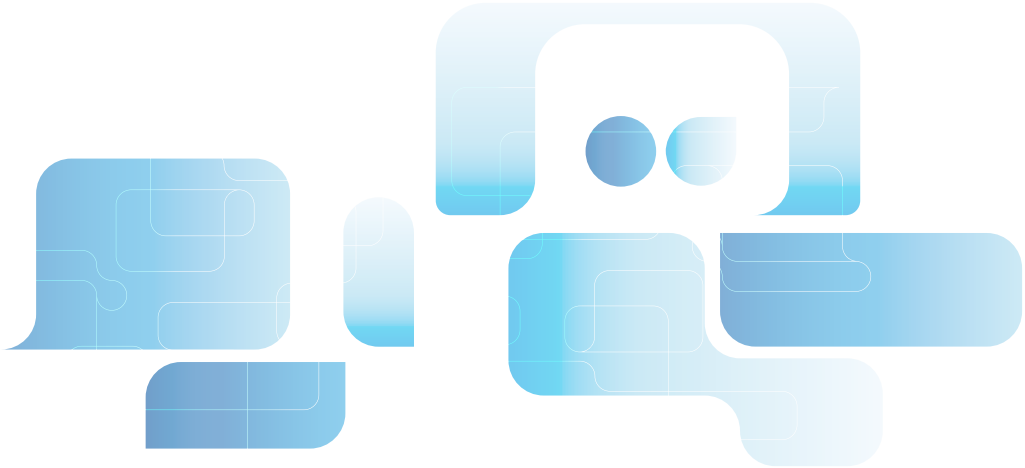
Esters	NY	PTFE	PVDF	CA	RC	PE	MCE	PES
Ethyl, Methyl Acetate	C	C	C	NC	C	LC	C	NC
Amyl, Propyl, Butyl Acetate	C	C	ND	LC	C	LC	ND	C
Propylene Glycol Acetate	ND	C	ND	NC	C	C	ND	ND
2-Ethoxyethyl Acetate	ND	C	ND	LC	C	ND	ND	ND
Methyl Cellosolve Acetate	ND	C	ND	NC	C	C	ND	ND
Benzyl Benzoate	C	C	ND	C	C	ND	ND	ND
Isopropyl Myristate	C	C	ND	C	C	ND	ND	ND
Tricresyl Phosphate	ND	C	ND	C	C	ND	ND	ND
Halogenated Hydrocarbons								
	NY	**PTFE**	**PVDF**	**CA**	**RC**	**PE**	**MCE**	**PES**
Methylene Chloride	LC	C	C	NC	C	LC	C	NC
Chloroform	C	C	C	NC	C	LC	C	NC
Trichloroethylene	C	C	C	C	C	LC	C	NC
Monochlorobenzene, Freon	C	C	C	C	C	C	ND	C
Carbon Tetrachloride	C	C	C	LC	C	LC	C	C
Hyrdrocarbons								
	NY	**PTFE**	**PVDF**	**CA**	**RC**	**PE**	**MCE**	**PES**
Hexane / Xylene	C	C	C	C	C	NC	C	C
Toulene / Benzene	C	C	C	C	C	NC	C	C
Kerosene / Gasolene	C	C	C	C	C	LC	C	C
Tetralin / Decalin	ND	C	C	C	C	ND	ND	ND
Ketones								
	NY	**PTFE**	**PVDF**	**CA**	**RC**	**PE**	**MCE**	**PES**
Acetone / Cyclohexanone	C	C	NC	NC	C	C	C	NC
Methyl Ethyl Ketone	C	C	LC	LC	C	LC	ND	NC
Isopropylacetone	C	C	NC	C	C	ND	ND	NC
Methyl Isobutyl Ketone	ND	C	LC	ND	C	NC	ND	C
OrganNC Oxides								
	NY	**PTFE**	**PVDF**	**CA**	**RC**	**PE**	**MCE**	**PES**
Ethyl Ether	C	C	C	C	C	NC	C	C
Dioxane & Tetrahydrofuran	C	C	LC	NC	C	C	LC	NC
Dimethylsulfoxide (DMSO)	C	C	NC	NC	C	C	ND	NC
Isopropyl Ether	ND	C	C	C	C	C	ND	C
Miscellaneous								
	NY	**PTFE**	**PVDF**	**CA**	**RC**	**PE**	**MCE**	**PES**
Phenol, Aqueous 10%	ND	C	LC	NC	NC	C	ND	ND
Hydrogen Peroxide, 30%	C	C	ND	C	C	ND	ND	ND
Silicone Oil & Mineral Oil	ND	C	C	C	C	C	C	C

Membrane Characteristics

The table below offers general guidelines for membrane characteristics and compatible applications.

Membrane Applications

Membrane Type	Characteristics	Applications
Nylon (NY)	Most frequently selected membrane; broad compatibility with aqueous and organic naturally hydrophilic membrane; extremely low in extractables; excellent flow rate with most sample matrices; not compatible with strong acids or bases.	General laboratory filtration; filtration for most samples; HPLC samples. NOTE: Nylon binds protein, do not use when high protein recovery is desired.
Polytetrafluorethylene (PTFE)	Hydrophobic PTFE membrane is resistant to nearly all solvents, acids, and bases; membrane is mechanically strong and will withstand exposure to high temperature liquids; low in extractables; PTFE blocks aqueous liquids but water vapor can still pass through; can be used to filter aqueous solutions after pre-wetting with an alcohol.	Filtration of aggressive organic, highly basic or hot solutions. Ideal for transducer protectors.
Polyvinylidenefluoride (PVDF)	Due to its slight hydrophobic characteristics it can be used for clear filtration of organic or partly organic solvents. Because of its good chemical resistance it is compatible with a wide range of organic and inorganic solvents (not to be used with e.g.: concentrated sulfuric acid, Ketones, DMSO)	The Polyvinylidenefluoride membrane is frequently used for chromatography sample preparation or for pharmaceutical applications.
Cellulose Acetate (CA)	Low protein binding, ideal for aqueous based samples; high protein recovery from filtrate; lower protein binding compared to PVDF. One of the most utilized membranes for sample preparation.	Tissue culture media filtration, sensitive biological samples.
Regenerated Cellulose (RC)	Hydrophilic membrane with good solvent resistance, extremely low nonspecific binding; compatible with nearly all common HPLC solvents; tolerates aqueous samples in pH range of 3 to 12.	Membrane of choice for low nonspecific binding applications; Tissue Culture media filtration and general biological sample preparation.
Polyethylene (PE)	Hydrophobic membrane has wide chemical compatibility with organic solvents; low non-specific protein binding.	Filtration of biological samples; filtration of aggressive organic solutions.
Mixed Cellulose Ester (MCE)	Naturally hydrophilic membrane with high flow rates and high protein binding. One of the most utilized membranes for microbiological applications. Good wet-ability and filtration performance for aqueous solutions. Can not be used with strong acids, bases, and alcohol.	Ideal for use in general filtration, medical assays, or diagnostic kit manufacturing applications.
Polyethersulfone (PES)	High flow rates with good throughput volume; low protein binding; compatible with high temperature liquids; mechanically strong membrane low in extractable ions.	PES is certified for ion chromatography; tissue culture filtration; filtration of proteins and nucleic acids.
Glass Fiber (GF)	Larger porosity; able to remove large particulates without clogging.	Primarily used as a pre-filter in conjunction with another membrane. Can be paired with most membranes - but typically with RC, CA, Nylon and PVDF.



Syringe Filters Types

DIAFIL - Nylon (NY)

Nylon (Polyamide) membranes are particularly suitable for General Laboratory filtration. This includes filtration for most HPLC samples. It is also used for the clarification and sterilization of alkaline solutions. This membrane has high mechanical stability.

Other pore sizes available on demand

100 pcs per box standard packaging, 50 pcs for sterile filters, other packaging style on request.

Diameter (mm)	Pore Size (µm)	Pre-Filter	Item Number	Description	Housing	Sterile	Connections inlet / outlet
15	0.2	-	5077834D	FPA150020	USV	no	FLL / MLS
	0.2	-	5120150D	FPA140020	USV	no	FLL / MT
	0.45	-	5077836D	FPA150045	USV	no	FLL / MLS
	0.45	-	5077833D	FPA140045	USV	no	FLL / MT
	0.2	-	5077835D	FPA150020S	USV	yes	FLL / MLS
	0.45	-	5077837D	FPA150045S	USV	yes	FLL / MLS
	0.2	-	5121438D	FPA140020S	USV	yes	FLL / MT
	0.45	-		FPA140045S	USV	yes	FLL / MT
25	0.2	-	5077844D	FPA250020	USV	no	FLL / MLS
	0.45	-	5077850D	FPA250045	USV	no	FLL / MLS
	0.2	-	5077845D	FPA250020S	USV	yes	FLL / MLS
	0.45	-	5077852D	FPA250045S	USV	yes	FLL / MLS
	0.2	-	5077847D	FPA250020R	RV	no	FLL / MLS
	0.45	-	5077853D	FPA250045R	RV	no	FLL / MLS
	0.2	-	5077848D	FPA250020RS	RV	yes	FLL / MLS
	0.45	-	5077854D	FPA250045RS	RV	yes	FLL / MLS
	0.2	yes	5077849D	FPA250020RV	RV	no	FLL / MLS
	0.45	yes	5077855D	FPA250045RV	RV	no	FLL / MLS
	0.2	yes		FPA250020RVS	RV	yes	FLL / MLS
	0.45	yes		FPA250045RVS	RV	yes	FLL / MLS
30	0.45	-		FPA300045S	USV	yes	FLL / MLS
	0.2	-	5077877D	FPA300020R	RV	no	FLL / MLS
	0.45	-	5077882D	FPA300045R	RV	no	FLL / MLS
	0.2	-		FPA300020RS	RV	yes	FLL / MLS
	0.45	-		FPA300045RS	RV	yes	FLL / MLS
	0.2	yes	5077878D	FPA300020RV	RV	no	FLL / MLS
	0.45	yes	5077883D	FPA300045RV	RV	no	FLL / MLS
	0.2	yes		FPA300020RVS	RV	yes	FLL / MLS
	0.45	yes		FPA300045RVS	RV	yes	FLL / MLS

USV: Ultrasonic Welded Version. **RV:** Ring Version.
FLL: Female Luer-Lock. **MLS:** Male Luer-Slip. **MT:** Mini-Tip

Code reading example:
FPA300020**RVS** → **Sterile**
Ring Version **Prefilter**

Syringe Filters Types

DIAFIL - Polytetrafluorethylene (PTFE)

Polytetrafluorethylene membranes are used for the filtration of aggressive organic, highly basic or hot solutions. Since it has a low resistance to gases, the membrane is also used for air and gas filtration (aeration and ventilation tasks).

Other pore sizes available on demand

100 pcs per box standard packaging, 50 pcs for sterile filters, other packaging style on request.

Diameter (mm)	Pore Size (µm)	Pre-Filter	Item Number	Description	Housing	Sterile	Connections inlet / outlet
15	0.2	-	5077921D	FPT150020	USV	no	FLL / MLS
	0.2	-	5121440D	FPT140020	USV	no	FLL / MT
	0.45	-	5077924D	FPT150045	USV	no	FLL / MLS
	0.45	-	5120818D	FPT140045	USV	no	FLL / MT
	0.2	-	5077923D	FPT150020S	USV	yes	FLL / MLS
	0.45	-	5077925D	FPT150045S	USV	yes	FLL / MLS
	0.2	-	5121442D	FPT140020S	USV	yes	FLL / MT
	0.45	-	5126631D	FPT140045S	USV	yes	FLL / MT
25	0.2	-	5077929D	FPT250020	USV	no	FLL / MLS
	0.45	-	5077937D	FPT250045	USV	no	FLL / MLS
	0.2	-	5077932D	FPT250020S	USV	yes	FLL / MLS
	0.45	-	5077939D	FPT250045S	USV	yes	FLL / MLS
	0.2	-	5077933D	FPT250020R	RV	no	FLL / MLS
	0.45	-	5077940D	FPT250045R	RV	no	FLL / MLS
	0.2	-	5077934D	FPT250020RS	RV	yes	FLL / MLS
	0.45	-	5077941D	FPT250045RS	RV	yes	FLL / MLS
	0.2	yes	5077935D	FPT250020RV	RV	no	FLL / MLS
	0.45	yes	5077942D	FPT250045RV	RV	no	FLL / MLS
	0.2	yes		FPT250020RVS	RV	yes	FLL / MLS
	0.45	yes		FPT250045RVS	RV	yes	FLL / MLS
30	0.2	-	5077959D	FPT300020	USV	no	FLL / MLS
	0.45	-	5077963D	FPT300045	USV	no	FLL / MLS
	0.2	-	5120722D	FPT300020S	USV	yes	FLL / MLS
	0.45	-	5120723D	FPT300045S	USV	yes	FLL / MLS
	0.2	-	5077960D	FPT300020R	RV	no	FLL / MLS
	0.45	-	5077964D	FPT300045R	RV	no	FLL / MLS
	0.2	-	5123281D	FPT300020RS	RV	yes	FLL / MLS
	0.45	-		FPT300045RS	RV	yes	FLL / MLS
	0.2	yes	5077961D	FPT300020RV	RV	no	FLL / MLS
	0.45	yes	5077965D	FPT300045RV	RV	no	FLL / MLS
	0.2	yes		FPT300020RVS	RV	yes	FLL / MLS
	0.45	yes		FPT300045RVS	RV	yes	FLL / MLS

USV: Ultrasonic Welded Version. **RV:** Ring Version.
FLL: Female Luer-Lock. **MLS:** Male Luer-Slip. **MT:** Mini-Tip

Code reading example:
FPA300020RVS — Sterile
Ring Version — Prefilter

DIAFIL - Polyvinylidenefluoride (PVDF)

The Polyvinylidenefluoride membrane is frequently used for chromatography sample preparation or for pharmaceutical applications. Due to its slight hydrophobic characteristics it can be used for clear filtration of organic or partly organic solvents. Because of its good chemical resistance it is compatible with a wide range of organic and inorganic solvents (not to be used with e.g.: concentrated sulfuric acid, Ketones, DMSO)

Other pore sizes available on demand

100 pcs per box standard packaging, 50 pcs for sterile filters, other packaging style on request.

Diameter (mm)	Pore Size (µm)	Pre-Filter	Item Number	Description	Housing	Sterile	Connections inlet / outlet
15	0.2	-	5077973D	FPV150020	USV	no	FLL / MLS
	0.2	-	5123458D	FPV140020	USV	no	FLL / MT
	0.45	-	5077975D	FPV150045	USV	no	FLL / MLS
	0.45	-	5123457D	FPV140045	USV	no	FLL / MT
	0.2	-	5077974D	FPV150020S	USV	yes	FLL / MLS
	0.45	-	5077976D	FPV150045S	USV	yes	FLL / MLS
	0.2	-	5123378D	FPV140020S	USV	yes	FLL / MT
	0.45	-	5123552D	FPV140045S	USV	yes	FLL / MT
25	0.2	-	5077979D	FPV250020	USV	no	FLL / MLS
	0.45	-	5077984D	FPV250045	USV	no	FLL / MLS
	0.2	-	5077980D	FPV250020S	USV	yes	FLL / MLS
	0.45	-	5077985D	FPV250045S	USV	yes	FLL / MLS
	0.2	-	5077981D	FPV250020R	RV	no	FLL / MLS
	0.45	-	5077986D	FPV250045R	RV	no	FLL / MLS
	0.2	-	5077982D	FPV250020RS	RV	yes	FLL / MLS
	0.45	-	5077987D	FPV250045RS	RV	yes	FLL / MLS
	0.2	yes	5077983D	FPV250020RV	RV	no	FLL / MLS
	0.45	yes	5077988D	FPV250045RV	RV	no	FLL / MLS
	0.2	yes		FPV250020RVS	RV	yes	FLL / MLS
	0.45	yes		FPV250045RVS	RV	yes	FLL / MLS
30	0.2	-	5120247D	FPV300020	USV	no	FLL / MLS
	0.45	-	5078007D	FPV300045	USV	no	FLL / MLS
	0.2	-	5120181D	FPV300020S	USV	yes	FLL / MLS
	0.45	-	5126530D	FPV300045S	USV	yes	FLL / MLS
	0.2	-	5078005D	FPV300020R	RV	no	FLL / MLS
	0.45	-	5078008D	FPV300045R	RV	no	FLL / MLS
	0.2	-		FPV300020RS	RV	yes	FLL / MLS
	0.45	-		FPV300045RS	RV	yes	FLL / MLS
	0.2	yes	5078006D	FPV300020RV	RV	no	FLL / MLS
	0.45	yes	5078009D	FPV300045RV	RV	no	FLL / MLS
	0.2	yes		FPV300020RVS	RV	yes	FLL / MLS
	0.45	yes		FPV300045RVS	RV	yes	FLL / MLS

USV: Ultrasonic Welded Version. **RV:** Ring Version.
FLL: Female Luer-Lock. **MLS:** Male Luer-Slip. **MT:** Mini-Tip

Code reading example:
FPA300020**RVS** — **Sterile**
Ring Version **Prefilter**

Syringe Filters Types

DIAFIL- Cellulose Acetate (CA)

Cellulose Acetate membranes are used in tissue culture media filtration as well as sensitive biological samples. They have low protein absorption and can be used in the clear filtration and sterile filtration of aqueous solutions. High temperature stability.

Other pore sizes available on demand

100 pcs per box standard packaging, 50 pcs for sterile filters, other packaging style on request.

Diameter (mm)	Pore Size (µm)	Pre-Filter	Item Number	Description	Housing	Sterile	Connections inlet / outlet
15	0.2	-	5123280D	FCA150020	USV	no	FLL / MLS
	0.2	-	5123453D	FCA140020	USV	no	FLL / MT
	0.45	-	5077002D	FCA150045	USV	no	FLL / MLS
	0.45	-	5123456D	FCA140045	USV	no	FLL / MT
	0.2	-	5123091D	FCA150020S	USV	yes	FLL / MLS
	0.45	-		FCA150045S	USV	yes	FLL / MLS
	0.2	-		FCA140020S	USV	yes	FLL / MT
	0.45	-		FCA140045S	USV	yes	FLL / MT
25	0.2	-	5077007D	FCA250020	USV	no	FLL / MLS
	0.45	-	5077010D	FCA250045	USV	no	FLL / MLS
	0.2	-	5120518D	FCA250020S	USV	yes	FLL / MLS
	0.45	-	5123031D	FCA250045S	USV	yes	FLL / MLS
	0.2	-	5077008D	FCA250020R	RV	no	FLL / MLS
	0.45	-	5077013D	FCA250045R	RV	no	FLL / MLS
	0.2	-	5077009D	FCA250020RS	RV	yes	FLL / MLS
	0.45	-	5077014D	FCA250045RS	RV	yes	FLL / MLS
	0.2	yes		FCA250020RV	RV	no	FLL / MLS
	0.45	yes	5126244D	FCA250045RV	RV	no	FLL / MLS
	0.2	yes	5120357D	FCA250020RVS	RV	yes	FLL / MLS
	0.45	yes		FCA250045RVS	RV	yes	FLL / MLS
30	0.2	-	5077027D	FCA300020	USV	no	FLL / MLS
	0.45	-	5077028D	FCA300045	USV	no	FLL / MLS
	0.2	-	5122117D	FCA300020S	USV	yes	FLL / MLS
	0.45	-	5120389D	FCA300045S	USV	yes	FLL / MLS
	0.2	-	5121824D	FCA300020R	RV	no	FLL / MLS
	0.45	-		FCA300045R	RV	no	FLL / MLS
	0.2	-		FCA300020RS	RV	yes	FLL / MLS
	0.45	-		FCA300045RS	RV	yes	FLL / MLS
	0.2	yes		FCA300020RV	RV	no	FLL / MLS
	0.45	yes		FCA300045RV	RV	no	FLL / MLS
	0.2	yes		FCA300020RVS	RV	yes	FLL / MLS
	0.45	yes		FCA300045RVS	RV	yes	FLL / MLS

USV: Ultrasonic Welded Version. **RV:** Ring Version.
FLL: Female Luer-Lock. **MLS:** Male Luer-Slip. **MT:** Mini-Tip

Code reading example:
FPA300020RVS — Sterile
Ring Version — Prefilter

DIAFIL - Regenerated Cellulose (RC)

Regenerated Cellulose membranes are particularly suitable for the filtration of tissue culture media and general biological sample filtration due to it's low, non-specific binding characteristics for proteins.

Other pore sizes available on demand

100 pcs per box standard packaging, 50 pcs for sterile filters, other packaging style on request.

Diameter (mm)	Pore Size (µm)	Pre-Filter	Item Number	Description	Housing	Sterile	Connections inlet / outlet
15	0.2	-	5078020D	FRC150020	USV	no	FLL / MLS
	0.2	-	5120145D	FRC140020	USV	no	FLL / MT
	0.45	-	5078022D	FRC150045	USV	no	FLL / MLS
	0.45	-	5078019D	FRC140045	USV	no	FLL / MT
	0.2	-	5078021D	FRC150020S	USV	yes	FLL / MLS
	0.45	-	5078023D	FRC150045S	USV	yes	FLL / MLS
	0.2	-	5123554D	FRC140020S	USV	yes	FLL / MT
	0.45	-	5126249D	FRC140045S	USV	yes	FLL / MT
25	0.2	-	5078026D	FRC250020	USV	no	FLL / MLS
	0.45	-	5078032D	FRC250045	USV	no	FLL / MLS
	0.2	-	5078028D	FRC250020S	USV	yes	FLL / MLS
	0.45	-	5078034D	FRC250045S	USV	yes	FLL / MLS
	0.2	-	5078029D	FRC250020R	RV	no	FLL / MLS
	0.45	-	5078035D	FRC250045R	RV	no	FLL / MLS
	0.2	-	5078030D	FRC250020RS	RV	yes	FLL / MLS
	0.45	-	5078036D	FRC250045RS	RV	yes	FLL / MLS
	0.2	yes	5078031D	FRC250020RV	RV	no	FLL / MLS
	0.45	yes	5078037D	FRC250045RV	RV	no	FLL / MLS
	0.2	yes		FRC250020RVS	RV	yes	FLL / MLS
	0.45	yes		FRC250045RVS	RV	yes	FLL / MLS
30	0.2	-	5120248D	FRC300020	USV	no	FLL / MLS
	0.45	-	5078054D	FRC300045	USV	no	FLL / MLS
	0.2	-	5121017D	FRC300020S	USV	yes	FLL / MLS
	0.45	-		FRC300045S	USV	yes	FLL / MLS
	0.2	-	5078052D	FRC300020R	RV	no	FLL / MLS
	0.45	-	5078055D	FRC300045R	RV	no	FLL / MLS
	0.2	-		FRC300020RS	RV	yes	FLL / MLS
	0.45	-		FRC300045RS	RV	yes	FLL / MLS
	0.2	yes	5078053D	FRC300020RV	RV	no	FLL / MLS
	0.45	yes	5078056D	FRC300045RV	RV	no	FLL / MLS
	0.2	yes		FRC300020RVS	RV	yes	FLL / MLS
	0.45	yes		FRC300045RVS	RV	yes	FLL / MLS

USV: Ultrasonic Welded Version. **RV:** Ring Version.
FLL: Female Luer-Lock. **MLS:** Male Luer-Slip. **MT:** Mini-Tip

Code reading example:
FPA300020**RVS** — **Sterile**
Ring Version **Prefilter**

Syringe Filters Types

DIAFIL - Polyethylene (PE)

Polyethylene membranes are hydrophobic and versatile in use. They are attacked by few substances and are relatively inert (except for strong oxidizing agents). They are highly stable and can be used for partly organic media.

Other pore sizes available on demand

100 pcs per box standard packaging, 50 pcs for sterile filters, other packaging style on request.

Diameter (mm)	Pore Size (µm)	Pre-Filter	Item Number	Description	Housing	Sterile	Connections inlet / outlet
15	0.2	-	5121776D	FPY150020	USV	no	FLL / MLS
	0.2	-	5077896D	FPY140020	USV	no	FLL / MT
	0.45	-	5077903D	FPY150045	USV	no	FLL / MLS
	0.45	-	5120188D	FPY140045	USV	no	FLL / MT
	0.2	-	5122226D	FPY150020S	USV	yes	FLL / MLS
	0.45	-	5121819D	FPY150045S	USV	yes	FLL / MLS
	0.2	-		FPY140020S	USV	yes	FLL / MT
	0.45	-		FPY140045S	USV	yes	FLL / MT
25	0.2	-	5077906D	FPY250020	USV	no	FLL / MLS
	0.45	-	5077910D	FPY250045	USV	no	FLL / MLS
	0.2	-	5122608D	FPY250020S	USV	yes	FLL / MLS
	0.45	-		FPY250045S	USV	yes	FLL / MLS
	0.2	-		FPY250020R	RV	no	FLL / MLS
	0.45	-		FPY250045R	RV	no	FLL / MLS
	0.2	-		FPY250020RS	RV	yes	FLL / MLS
	0.45	-		FPY250045RS	RV	yes	FLL / MLS
	0.2	yes	5125077D	FPY250020RV	RV	no	FLL / MLS
	0.45	yes	5123178D	FPY250045RV	RV	no	FLL / MLS
	0.2	yes		FPY250020RVS	RV	yes	FLL / MLS
	0.45	yes		FPY250045RVS	RV	yes	FLL / MLS
30	0.2	-	5122517D	FPY300020	USV	no	FLL / MLS
	0.45	-	5120010D	FPY300045	USV	no	FLL / MLS
	0.2	-	5123412D	FPY300020S	USV	yes	FLL / MLS
	0.45	-		FPY300045S	USV	yes	FLL / MLS
	0.2	-		FPY300020R	RV	no	FLL / MLS
	0.45	-		FPY300045R	RV	no	FLL / MLS
	0.2	-		FPY300020RS	RV	yes	FLL / MLS
	0.45	-		FPY300045RS	RV	yes	FLL / MLS
	0.2	yes		FPY300020RV	RV	no	FLL / MLS
	0.45	yes	5120648D	FPY300045RV	RV	no	FLL / MLS
	0.2	yes		FPY300020RVS	RV	yes	FLL / MLS
	0.45	yes		FPY300045RVS	RV	yes	FLL / MLS

USV: Ultrasonic Welded Version. **RV:** Ring Version.
FLL: Female Luer-Lock. **MLS:** Male Luer-Slip. **MT:** Mini-Tip

Code reading example:
FPA300020RVS — Sterile
Ring Version — Prefilter

DIAFIL - Mixed Cellulose Ester (MCE)

The mixed cellulose ester membrane is hydrophilic. It is a mixed ester of the CA and CN membrane material. CM membranes contain a high proportion of cellulose nitrate and can therefore be used for similar tasks.

Other pore sizes available on demand

100 pcs per box standard packaging, 50 pcs for sterile filters, other packaging style on request.

Diameter (mm)	Pore Size (µm)	Pre-Filter	Item Number	Description	Housing	Sterile	Connections inlet / outlet
15	0.2	-	5125871D	FCM150020	USV	no	FLL / MLS
	0.2	-		FCM140020	USV	no	FLL / MT
	0.45	-		FCM150045	USV	no	FLL / MLS
	0.45	-		FCM140045	USV	no	FLL / MT
	0.2	-	5122230D	FCM150020S	USV	yes	FLL / MLS
	0.45	-	5122229D	FCM150045S	USV	yes	FLL / MLS
	0.2	-		FCM140020S	USV	yes	FLL / MT
	0.45	-		FCM140045S	USV	yes	FLL / MT
25	0.2	-	5122688D	FCM250020	USV	no	FLL / MLS
	0.45	-	5120155D	FCM250045	USV	no	FLL / MLS
	0.2	-	5122687D	FCM250020S	USV	yes	FLL / MLS
	0.45	-		FCM250045S	USV	yes	FLL / MLS
	0.2	-		FCM250020R	RV	no	FLL / MLS
	0.45	-	5077033D	FCM250045R	RV	no	FLL / MLS
	0.2	-		FCM250020RS	RV	yes	FLL / MLS
	0.45	-		FCM250045RS	RV	yes	FLL / MLS
	0.2	yes		FCM250020RV	RV	no	FLL / MLS
	0.45	yes		FCM250045RV	RV	no	FLL / MLS
	0.2	yes		FCM250020RVS	RV	yes	FLL / MLS
	0.45	yes		FCM250045RVS	RV	yes	FLL / MLS
30	0.2	-	5077034D	FCM300020	USV	no	FLL / MLS
	0.45	-	5077035D	FCM300045	USV	no	FLL / MLS
	0.2	-	5121015D	FCM300020S	USV	yes	FLL / MLS
	0.45	-	5125653D	FCM300045S	USV	yes	FLL / MLS
	0.2	-		FCM300020R	RV	no	FLL / MLS
	0.45	-		FCM300045R	RV	no	FLL / MLS
	0.2	-		FCM300020RS	RV	yes	FLL / MLS
	0.45	-		FCM300045RS	RV	yes	FLL / MLS
	0.2	yes		FCM300020RV	RV	no	FLL / MLS
	0.45	yes		FCM300045RV	RV	no	FLL / MLS
	0.2	yes		FCM300020RVS	RV	yes	FLL / MLS
	0.45	yes		FCM300045RVS	RV	yes	FLL / MLS

USV: Ultrasonic Welded Version. **RV:** Ring Version.
FLL: Female Luer-Lock. **MLS:** Male Luer-Slip. **MT:** Mini-Tip

Code reading example:
FPA300020**RVS** — **Sterile**
Ring Version **Prefilter**

Syringe Filters Types

DIAFIL - Polyethersulfone (PES)

Polyethersulfone membranes are hydrophilic and have low protein adsorption. They are primarily used for aqueous or partially organic media (pH 2-12) in pharmaceutical and biological sample preparation.

Other pore sizes available on demand

100 pcs per box standard packaging, 50 pcs for sterile filters, other packaging style on request.

Diameter (mm)	Pore Size (µm)	Pre-Filter	Item Number	Description	Housing	Sterile	Connections inlet / outlet
15	0.2	-	5121443D	FPS150020	USV	no	FLL / MLS
	0.2	-	5123059D	FPS140020	USV	no	FLL / MT
	0.45	-	5122371D	FPS150045	USV	no	FLL / MLS
	0.45	-	5122338D	FPS140045	USV	no	FLL / MT
	0.2	-	5120349D	FPS150020S	USV	yes	FLL / MLS
	0.45	-	5120350D	FPS150045S	USV	yes	FLL / MLS
	0.2	-	5123056D	FPS140020S	USV	yes	FLL / MT
	0.45	-		FPS140045S	USV	yes	FLL / MT
25	0.2	-	5077915D	FPS250020	USV	no	FLL / MLS
	0.45	-	5077917D	FPS250045	USV	no	FLL / MLS
	0.2	-	5077916D	FPS250020S	USV	yes	FLL / MLS
	0.45	-	5077918D	FPS250045S	USV	yes	FLL / MLS
	0.2	-		FPS250020R	RV	no	FLL / MLS
	0.45	-		FPS250045R	RV	no	FLL / MLS
	0.2	-		FPS250020RS	RV	yes	FLL / MLS
	0.45	-		FPS250045RS	RV	yes	FLL / MLS
	0.2	yes	5120566D	FPS250020RV	RV	no	FLL / MLS
	0.45	yes		FPS250045RV	RV	no	FLL / MLS
	0.2	yes		FPS250020RVS	RV	yes	FLL / MLS
	0.45	yes		FPS250045RVS	RV	yes	FLL / MLS
30	0.2	-	5122019D	FPS300020	USV	no	FLL / MLS
	0.45	-	5120513D	FPS300045	USV	no	FLL / MLS
	0.2	-	5121487D	FPS300020S	USV	yes	FLL / MLS
	0.45	-	5121483D	FPS300045S	USV	yes	FLL / MLS
	0.2	-		FPS300020R	RV	no	FLL / MLS
	0.45	-		FPS300045R	RV	no	FLL / MLS
	0.2	-		FPS300020RS	RV	yes	FLL / MLS
	0.45	-		FPS300045RS	RV	yes	FLL / MLS
	0.2	yes		FPS300020RV	RV	no	FLL / MLS
	0.45	yes		FPS300045RV	RV	no	FLL / MLS
	0.2	yes		FPS300020RVS	RV	yes	FLL / MLS
	0.45	yes		FPS300045RVS	RV	yes	FLL / MLS

USV: Ultrasonic Welded Version. **RV:** Ring Version.
FLL: Female Luer-Lock. **MLS:** Male Luer-Slip. **MT:** Mini-Tip

Code reading example:
FPA300020RVS — Sterile
Ring Version — Prefilter

DIAFIL - Glass Fiber (GF)

Glass Fiber membranes are used for preliminary filtration or filtration of media that is difficult to filter. The three dimensional filter surface provides much greater intake capacity for contaminating particles than two-dimensional membranes provide. Glass Fiber is inert to solvents, acids and bases.

Other GF grades available on demand

100 pcs per box standard packaging, 50 pcs for sterile filters, other packaging style on request.

Diameter (mm)	Pore Size (µm)	Pre-Filter	Item Number	Description	Housing	Sterile	Connections inlet / outlet
15	1-2	-	5077326D	FGF150001	USV	no	FLL / MLS
	1-2	-	5077325D	FGF140001	USV	no	FLL / MT
	1-2	-	5077327D	FGF150001S	USV	yes	FLL / MLS
	1-2	-	5122757D	FGF140001S	USV	yes	FLL / MT
25	1-2	-	5077329D	FGF250001	USV	no	FLL / MLS
	1-2	-	5077331D	FGF250001S	USV	yes	FLL / MLS
	1-2	-	5077332D	FGF250001R	RV	no	FLL / MLS
	1-2	-	5077333D	FGF250001RS	RV	yes	FLL / MLS
30	1-2	-	5077342D	FGF300001	USV	no	FLL / MLS
	1-2	-	5120551D	FGF300001S	USV	yes	FLL / MLS
	1-2	-	5077343D	FGF300001R	RV	no	FLL / MLS
	1-2	-		FGF300001RS	RV	yes	FLL / MLS

USV: Ultrasonic Welded Version. **RV:** Ring Version.
FLL: Female Luer-Lock. **MLS:** Male Luer-Slip. **MT:** Mini-Tip

Code reading example:
FPA300020**RV**S — **Sterile**
Ring Version **Prefilter**

DIAFIL - Inline Filter 50 mm

The 50mm inline filter with its Polypropylene housing (ultrasonic welded) is designed to contain one or multiple 47 mm membrane layers. The filter comes with 6-12 mm tube clips (tapered) at the inlet and the outlet side.
Depending on the application the filter can be customized with different membrane types.

- PTFE Hydrophobic Membrane for vent applications (standard).
- PES and NY Membranes for liquid media in different pore sizes.

Other membrane types are available upon request, prefilter also available. High filter area of 1735 mm^2 the filter is suitable for long term gas filtration / venting applications or it could be used for filtration of higher volumes of liquid (up to approximately 500 ml), depending on the particle load of the filtrated suspension.

Other pore sizes available on demand
Other membrane types available on demand

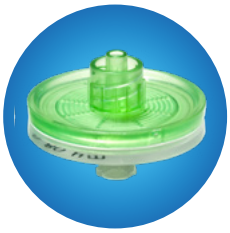
100 pcs per box standard packaging, 50 pcs for sterile filters, other packaging style on request.

Diameter (mm)	Pore Size (µm)	Pre-Filter	Item Number	Description	Housing	Sterile	Connections inlet / outlet
50	0.2	-	5126101D	FPT502020	USV	no	6-12 mm tapered tube
	0.2	-	5126825D	FPT502020S	USV	yes	6-12 mm tapered tube
	0.45	-	5127329D	FPT502045	USV	no	6-12 mm tapered tube
	0.45	-	5126833D	FPT502045S	USV	yes	6-12 mm tapered tube

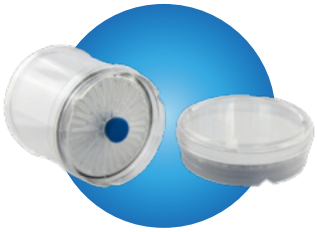
USV: Ultrasonic Welded Version. **RV:** Ring Version.
FLL: Female Luer-Lock. **MLS:** Male Luer-Slip. **MT:** Mini-Tip

Code reading example:
FPA300020RVS — Sterile
Ring Version — Prefilter

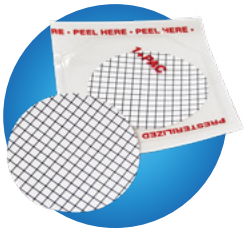
Life Sciences products and capabilities



- MICROFILTRATION PRODUCTS: Syringe Filters, Vent Filters, Capsule Filters, Centrifugal Filters, Bottle Top, Filter Holders for Membranes, Filter Funnels

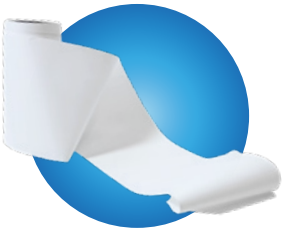


- MICROBIOLOGY: Microbiological Monitors, Analytical Monitors, Nutrient Liquid Media, Swab Kits, Dilution Bottles, Sterile Membranes



- FILTRATION MEMBRANES: Discs, Sheets and Roll, available in a wide range of media: CA, NC, NY, PES, PP, PTFE, RC, PE, Hydrophobic and Hydrophilic PVDF, PCTE, PETE, Silver, Drain Discs, Filter Papers,Glass Fiber/Quartz

- FAST® PROTEIN MICROARRAY



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- CUSTOMIZED DEVICES AND COMPONENTS

- TRANSFER (blotting) MEMBRANES for nucleic acid and protein analysis

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