

solutions

THROUGH INNOVATIVE **TECHNOLOGY** & **PRECISION**



Graphic Controls
LIFE SCIENCE

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Graphic Controls Syringe Filter Products

A syringe filter generally consists of a plastic housing with a membrane which serves as a filter. The filter is designed to press fluid through the filter. The following chart is designed to help in selecting the correct filter for your project.

Syringe Filter Products						
Filter Diameter	15mm		25mm		30mm	
Pore Size	0.20 μm	0.45 μm	0.20 μm	0.45 μm	0.20 μm	0.45 μm
Filter Inlet	Luer-Lock Female		Luer-Lock Female		Luer-Lock Female	
Filter Outlet	Luer-male / Mini Tip		Luer-Male		Luer-Male	
Pre-Filter	Available		Available		Available	
Sterile	Optional		Optional		Optional	
Version	Ultrasonic Welded or Ring		Ultrasonic Welded or Ring		Ultrasonic Welded or Ring	

Choosing your Syringe Filter

Choosing the Proper Pore Size	
Cleaning Operation	Optimal Pore Size
Sterile Filtration	0.20 μm
Thorough Cleaning	0.45 μm
Clear Filtration	1 - 2 μm
Pre-Filtration	5 μm

Choosing the Proper Diameter	
Filter Diameter	Volume to be Filtered
4 mm	< 1 ml
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

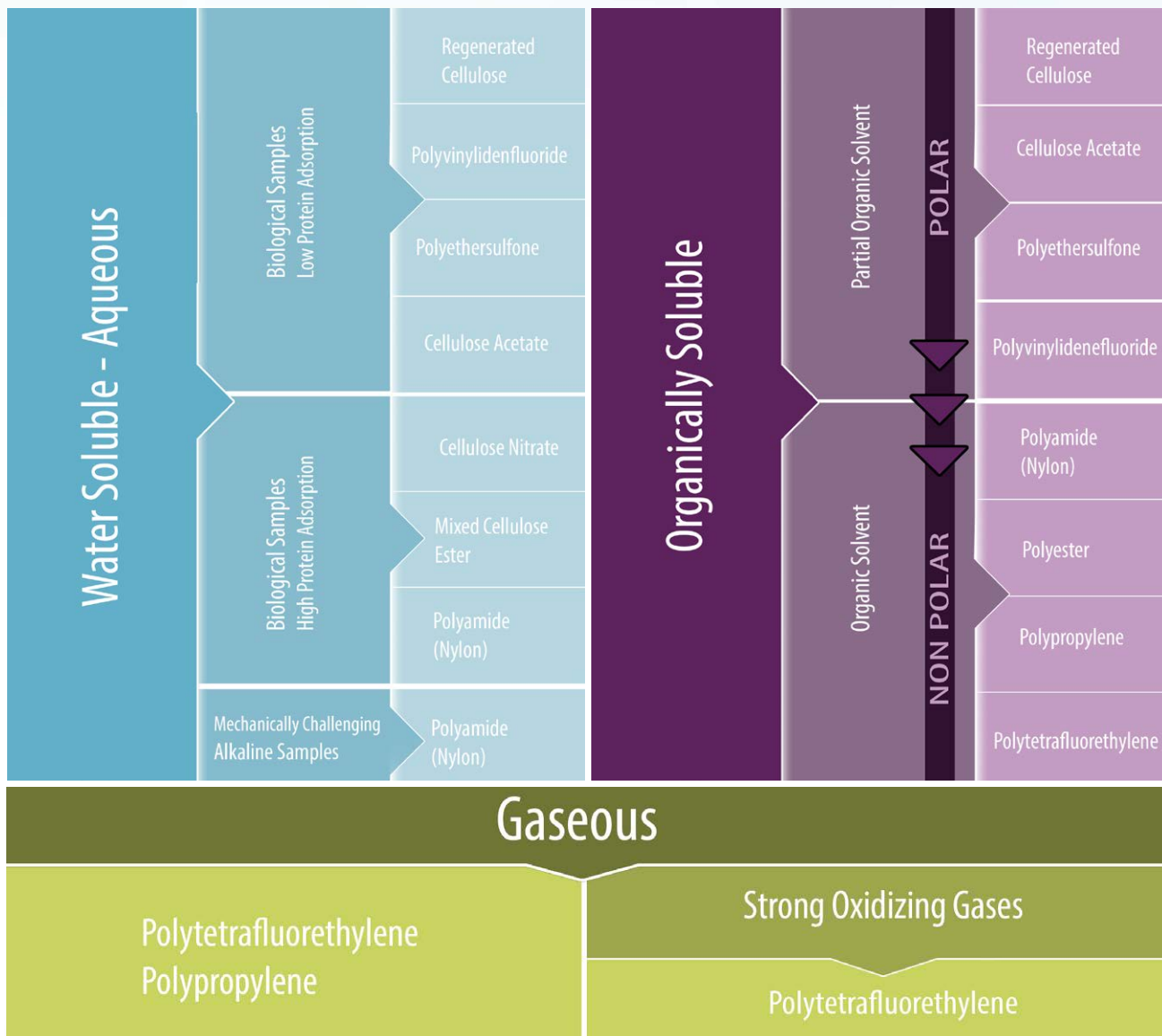
Pressure of Syringe Volumes	
Syringe Volume	Pressure Bar / PSI
1 ml	10 / 150
3 ml	7.0 / 100
5 ml	5.0 / 75
10 ml	3.5 / 50
20 ml	2.0 / 30

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



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 at 1.800.669.6905



Using Syringe Filters

15 mm (ultrasonic welded)

Housing Material	Polypropylene
Total Filter Volume	0.335 ml
Dead Volume	< 25 µm
Filter Area	177 mm ²
Max Op. Pressure	7 Bar
Inlet	Luer-Lock (female)
Outlet	Luer-Slip (male)

15 mm Mini-Tip (ultrasonic welded)

Housing Material	Polypropylene
Total Filter Volume	0.335 ml
Dead Volume	< 25 µm
Filter Area	177 mm ²
Max Op. Pressure	7 Bar
Inlet	Luer-Lock (female)
Outlet	Mini-Tip

25 mm (ultrasonic welded)

Housing Material	Polypropylene
Total Filter Volume	0.6 ml
Dead Volume	< 65 µm
Filter Area	490 mm ²
Max Op. Pressure	7 Bar
Inlet	Luer-Lock (female)
Outlet	Luer-Slip (male)

25 mm (Ring Version)

Housing Material	Polypropylene
Total Filter Volume	0.6 ml
Dead Volume	< 65 µm
Filter Area	490 mm ²
Max Op. Pressure	7 Bar
Inlet	Luer-Lock (female)
Outlet	Luer-Slip (male)

30 mm (ultrasonic welded)

Housing Material	Polypropylene
Total Filter Volume	0.864 ml
Dead Volume	< 170 µm
Filter Area	707 mm ²
Max Op. Pressure	6 Bar
Inlet	Luer-Lock (female)
Outlet	Luer-Slip (male)

30 mm (Ring Version)

Housing Material	Polycarbonate
Total Filter Volume	0.864 ml
Dead Volume	< 170 µm
Filter Area	707 mm ²
Max Op. Pressure	6 Bar
Inlet	Luer-Lock (female)
Outlet	Luer-Slip (male)

50 mm In-Line Filter

Housing Material	Polypropylene
Total Filter Volume	2.57 ml
Dead Volume	< 920 µm
Filter Area	1735 mm ²
Max Op. Pressure	4 Bar
Inlet	hose connector 6-12 mm
Outlet	hose connector 6-12 mm



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

IC = Incompatible (Not Recommended)

ND = No Compatibility Data Available

PTFE = Polytetrafluorethylene

PVDF = Polyvinylidene fluoride

PES = Polyethersulfone

CN = Cellulose Nitrate

CA = Cellulose Acetate

RC = Regenerated Cellulose

PP = Polypropylene

PA = Polyamide Nylon®

PC = Polycarbonate

PET = Polyester

CME = Cellulose Mixed Ester

Chemical	PA	PTFE	PVDF	CA	RC	PP	PC	PET	CME	CN	PES
Acids											
Acetic, Glacial	C	C	C	C	C	C	ND	C	IC	IC	C
Acetic, 25%	IC	C	C	IC	IC	C	C	C	LC	LC	C
Hydrochloric, concentrated	IC	C	C	IC	IC	C	C	IC	IC	IC	C
Sulfuric, concentrated	IC	C	IC	IC	IC	C	IC	ND	IC	IC	IC
Sulfuric, 25%	IC	C	C	IC	LC	C	ND	ND	LC	IC	ND
Nitric, concentrated	IC	C	C	IC	IC	C	C	LC	IC	IC	IC
Nitric, 25%	IC	C	C	IC	IC	C	ND	ND	LC	LC	LC
Phosphoric, 25%	IC	C	ND	C	LC	C	ND	C	LC	ND	ND
Formic, 25%	IC	C	ND	LC	C	C	ND	LC	C	LC	C
Trichloroacetic, 10%	IC	C	ND	C	C	C	ND	ND	ND	ND	ND
Alcohols											
Methanol, 98%	C	C	C	C	C	C	C	C	IC	IC	C
Ethanol, 98%	C	C	C	C	C	C	C	C	IC	IC	C
Ethanol, 70%	LC	C	C	LC	C	C	C	C	IC	IC	C
Isopropanol	C	C	C	C	C	C	LC	C	C	C	C
n-Propanol	C	C	C	C	C	C	LC	C	C	C	C
Amyl Alcohol (Butanol)	C	C	C	C	C	C	ND	C	C	C	C
Benzyl Alcohol	C	C	C	LC	C	C	LC	ND	LC	LC	IC
Ethylene Glycol	C	C	C	C	C	C	C	C	LC	LC	C
Propylene Glycol	C	C	C	LC	C	C	ND	ND	ND	ND	ND
Glycerol	C	C	C	C	C	C	ND	ND	C	ND	ND
Alkalis											
Ammonium Hydroxide, 25%	C	C	LC	C	LC	C	IC	LC	LC	IC	C
Sodium Hydroxide, 3N	C	C	C	IC	LC	C	IC	LC	IC	IC	C

Syringe Filter Membrane Compatibility (Continued)

Chemical	PA	PTFE	PVDF	CA	RC	PP	PC	PET	CME	CN	PES
Amines & Amides (Solvents with Nitrogen)											
Dimethyl Formamide	LC	C	IC	IC	LC	C	ND	C	IC	IC	IC
Diethylacetamide	C	C	ND	IC	C	ND	ND	ND	ND	ND	ND
Triethanolamine	C	C	ND	C	C	ND	ND	ND	ND	ND	ND
Aniline	ND	C	ND	IC	C	ND	ND	ND	ND	ND	ND
Pyridine	C	C	C	IC	C	LC	IC	ND	IC	IC	IC
Esters											
Ethyl, Methyl Acetate	C	C	C	IC	C	LC	LC	C	IC	IC	IC
Amyl, Propyl, Butyl Acetate	C	C	ND	LC	C	LC	C	ND	ND	IC	C
Propylene Glycol Acetate	ND	C	ND	IC	C	C	ND	ND	ND	ND	ND
2-Ethoxyethyl Acetate	ND	C	ND	LC	C	ND	ND	ND	ND	ND	ND
Methyl Cellosolve Acetate	ND	C	ND	IC	C	C	ND	ND	ND	ND	ND
Benzyl Benzoate	C	C	ND	C	C	ND	ND	ND	ND	ND	ND
Isopropyl Myristate	C	C	ND	C	C	ND	ND	ND	ND	ND	ND
Tricresyl Phosphate	ND	C	ND	C	C	ND	ND	ND	ND	ND	ND
Halogenated Hydrocarbons											
Methylene Chloride	LC	C	C	IC	C	LC	ND	C	ND	LC	IC
Chloroform	C	C	C	IC	C	LC	IC	C	C	C	IC
Trichloroethylene	C	C	C	C	C	LC	ND	C	C	C	IC
Monochlorobenzene, Freon	C	C	C	C	C	C	C	ND	ND	C	C
Carbon Tetrachloride	C	C	C	LC	C	LC	LC	C	C	C	C
Hydrocarbons											
Hexane / Xylene	C	C	C	C	C	IC	C	C	C	C	C
Toulene / Benzene	C	C	C	C	C	IC	LC	C	C	C	C
Kerosene / Gasolene	C	C	C	C	C	LC	LC	C	C	C	C
Tetralin / Decalin	ND	C	C	C	C	ND	ND	ND	ND	ND	ND
Ketones											
Acetone / Cyclohexanone	C	C	IC	IC	C	C	IC	C	IC	IC	IC
Methyl Ethyl Ketone	C	C	LC	LC	C	LC	LC	ND	ND	IC	IC
Isopropylacetone	C	C	IC	C	C	ND	ND	ND	ND	ND	IC
Methyl Isobutyl Ketone	ND	C	LC	ND	C	IC	ND	ND	ND	IC	C
Organic Oxides											
Ethyl Ether	C	C	C	C	C	IC	C	C	LC	LC	C
Dioxane & Tetrahydrofuran	C	C	LC	IC	C	C	IC	LC	IC	IC	IC
Dimethylsulfoxide (DMSO)	C	C	IC	IC	C	C	IC	ND	IC	IC	IC
Isopropyl Ether	ND	C	C	C	C	C	C	ND	ND	LC	C
Miscellaneous											
Phenol, Aqueous 10%	ND	C	LC	IC	IC	C	ND	ND	IC	LC	ND
Hydrogen Peroxide, 30%	C	C	ND	C	C	ND	ND	ND	ND	ND	ND
Silicone Oil & Mineral Oil	ND	C	C	C	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
Regenerated Cellulose	Hydrophilic membrane with good solvent resistance, extremely low nonspecific protein binding; compatible with nearly all common HPLC solvents; tolerates aqueous samples in pH range of 3 to 12.	Membrane of choice for low nonspecific protein binding applications; Tissue Culture media filtration and general biological sample preparation.
Polyamide (Nylon)	One of the most commonly used membranes; broad compatibility with aqueous and organic solvents, stable hydrophilic membrane, not suitable for highly acidic samples.	General laboratory filtration; filtration for most samples; HPLC samples. NOTE: Nylon binds protein, do not use when high protein recovery is desired.
Polytetrafluorethylene (strength and resistance may be limited by backer material)	Highly hydrophobic, PTFE membranes are chemically inert to most organic solvents, alkalis and acids. PTFE can be used as a breather filter for aqueous applications. Can be used with aqueous solutions only after use of a wetting agent (eg alcohol).	Suitable for filtration of aggressive solvents, bases and acids. Can be used as ventilation filter.
Polyvinylidenefluoride (hydrophilic version)	Hydrophilic membrane with good solvent resistance; low UV absorbing extractables and low nonspecific protein binding.	General biological filtration; filtration of samples where high protein recovery is desired.
Polypropylene	Hydrophobic membrane has wide chemical compatibility with organic solvents; low non-specific protein binding.	Filtration of organic solvents. Can be used as ventilation filter
Polyethersulfone	Hydrophilic membrane with high flow rates (liquids), low protein binding, low concentrations of extractable substances.	PES is certified for ion chromatography; tissue culture filtration; filtration of proteins and nucleic acids.
Mixed Cellulose Ester	Hydrophilic membrane with high flow rate, high protein binding capacity (not suitable for biological samples). Not suitable for use with strong acids and alkalis	Ideal for use in general filtration, medical assays, or diagnostic kit manufacturing applications.
Cellulose Acetate	Low protein binding, ideal for aqueous based samples; high protein recovery from filtrate; lower protein binding compared to PVDF.	Tissue culture media filtration, sensitive biological samples.
Glass Fiber	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.

DIAFIL - Regenerated Cellulose (RC)

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

USV: Ultrasonic Welded Version. **RV:** Ring Version. **LLF:** Luer-Lock Female. **LSM:** Luer-Slip Male

Diameter (mm)	Pore Size	Pre-Filter	Item Number	Description	Housing	Sterile	inlet / outlet
15	0.2	-	5078020D	FRC150020	USV	-	LLF / LSM
	0.2	-	5120145D	FRC140020	USV	-	LLF / MiniTip
	0.45	-	5078022D	FRC150045	USV	-	LLF / LSM
	0.45	-	5078019D	FRC140045	USV	-	LLF / MiniTip
	0.2	-	5078021D	FRC150020S	USV	yes	LLF / LSM
	0.45	-	5078023D	FRC150045S	USV	yes	LLF / LSM
	0.2	-	5123554D	FRC140020S	USV	yes	LLF / MiniTip
	0.45	-	5126249D	FRC140045S	USV	yes	LLF / MiniTip
	0.2	yes		FRC150020V	USV	-	LLF / LSM
	0.45	yes		FRC150045V	USV	-	LLF / LSM
	0.2	yes		FRC150020VS	USV	yes	LLF / LSM
	0.45	yes		FRC150045VS	USV	yes	LLF / LSM
25	0.2	-	5078026D	FRC250020	USV	-	LLF / LSM
	0.45	-	5078032D	FRC250045	USV	-	LLF / LSM
	0.2	-	5078028D	FRC250020S	USV	yes	LLF / LSM
	0.45	-	5078034D	FRC250045S	USV	yes	LLF / LSM
	0.2	yes		FRC250020V	USV	-	LLF / LSM
	0.45	yes		FRC250045V	USV	-	LLF / LSM
	0.2	yes		FRC250020VS	USV	yes	LLF / LSM
	0.45	yes		FRC250045VS	USV	yes	LLF / LSM
	0.2	-	5078029D	FRC250020R	RV	-	LLF / LSM
	0.45	-	5078035D	FRC250045R	RV	-	LLF / LSM
	0.2	-	5078030D	FRC250020RS	RV	yes	LLF / LSM
	0.45	-	5078036D	FRC250045RS	RV	yes	LLF / LSM
	0.2	yes	5078031D	FRC250020RV	RV	-	LLF / LSM
	0.45	yes	5078037D	FRC250045RV	RV	-	LLF / LSM
	0.2	yes		FRC250020RVS	RV	yes	LLF / LSM
	0.45	yes		FRC250045RVS	RV	yes	LLF / LSM
30	0.2	-	5120248D	FRC300020	USV	-	LLF / LSM
	0.45	-	5078054D	FRC300045	USV	-	LLF / LSM
	0.2	-	5121017D	FRC300020S	USV	yes	LLF / LSM
	0.45	-		FRC300045S	USV	yes	LLF / LSM
	0.2	yes		FRC300020V	USV	-	LLF / LSM
	0.45	yes		FRC300045V	USV	-	LLF / LSM
	0.2	yes		FRC300020VS	USV	yes	LLF / LSM
	0.45	yes		FRC300045VS	USV	yes	LLF / LSM
	0.2	-	5078052D	FRC300020R	RV	-	LLF / LSM
	0.45	-	5078055D	FRC300045R	RV	-	LLF / LSM
	0.2	-		FRC300020RS	RV	yes	LLF / LSM
	0.45	-		FRC300045RS	RV	yes	LLF / LSM
	0.2	yes	5078053D	FRC300020RV	RV	-	LLF / LSM
	0.45	yes	5078056D	FRC300045RV	RV	-	LLF / LSM
	0.2	yes		FRC300020RVS	RV	yes	LLF / LSM
	0.45	yes		FRC300045RVS	RV	yes	LLF / LSM



DIAFIL - Polyamide Nylon (PA)

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.

USV: Ultrasonic Welded Version. **RV:** Ring Version. **LLF:** Luer-Lock Female. **LSM:** Luer-Slip Male

Diameter (mm)	Pore Size	Pre-Filter	Item Number	Description	Housing	Sterile	inlet / outlet
15	0.2	-	5077834D	FPA150020	USV	-	LLF / LSM
	0.2	-	5120150D	FPA140020	USV	-	LLF / MiniTip
	0.45	-	5077836D	FPA150045	USV	-	LLF / LSM
	0.45	-	5077833D	FPA140045	USV	-	LLF / MiniTip
	0.2	-	5077835D	FPA150020S	USV	yes	LLF / LSM
	0.45	-	5077837D	FPA150045S	USV	yes	LLF / LSM
	0.2	-	5121438D	FPA140020S	USV	yes	LLF / MiniTip
	0.45	-		FPA140045S	USV	yes	LLF / MiniTip
	0.2	yes		FPA150020V	USV	-	LLF / LSM
	0.45	yes		FPA150045V	USV	-	LLF / LSM
	0.2	yes		FPA150020VS	USV	yes	LLF / LSM
25	0.45	yes		FPA150045VS	USV	yes	LLF / LSM
	0.2	-	5077844D	FPA250020	USV	-	LLF / LSM
	0.45	-	5077850D	FPA250045	USV	-	LLF / LSM
	0.2	-	5077845D	FPA250020S	USV	yes	LLF / LSM
	0.45	-	5077852D	FPA250045S	USV	yes	LLF / LSM
	0.2	yes		FPA250020V	USV	-	LLF / LSM
	0.45	yes		FPA250045V	USV	-	LLF / LSM
	0.2	yes		FPA250020VS	USV	yes	LLF / LSM
	0.45	yes		FPA250045VS	USV	yes	LLF / LSM
	0.2	-	5077847D	FPA250020R	RV	-	LLF / LSM
	0.45	-	5077853D	FPA250045R	RV	-	LLF / LSM
	0.2	-	5077848D	FPA250020RS	RV	yes	LLF / LSM
	0.45	-	5077854D	FPA250045RS	RV	yes	LLF / LSM
	0.2	yes	5077849D	FPA250020RV	RV	-	LLF / LSM
	0.45	yes	5077855D	FPA250045RV	RV	-	LLF / LSM
30	0.2	yes		FPA250020RVS	RV	yes	LLF / LSM
	0.45	yes		FPA250045RVS	RV	yes	LLF / LSM
	0.2	-	5077875D	FPA300020	USV	-	LLF / LSM
	0.45	-	5077879D	FPA300045	USV	-	LLF / LSM
	0.2	-	5120179D	FPA300020S	USV	yes	LLF / LSM
	0.45	-		FPA300045S	USV	yes	LLF / LSM
	0.2	yes		FPA300020V	USV	-	LLF / LSM
	0.45	yes		FPA300045V	USV	-	LLF / LSM
	0.2	yes		FPA300020VS	USV	yes	LLF / LSM
	0.45	yes		FPA300045VS	USV	yes	LLF / LSM
	0.2	-	5077877D	FPA300020R	RV	-	LLF / LSM
	0.45	-	5077882D	FPA300045R	RV	-	LLF / LSM
	0.2	-		FPA300020RS	RV	yes	LLF / LSM
	0.45	-		FPA300045RS	RV	yes	LLF / LSM
	0.2	yes	5077878D	FPA300020RV	RV	-	LLF / LSM
	0.45	yes	5077883D	FPA300045RV	RV	-	LLF / LSM
	0.2	yes		FPA300020RVS	RV	yes	LLF / LSM
	0.45	yes		FPA300045RVS	RV	yes	LLF / LSM



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).

USV: Ultrasonic Welded Version. **RV:** Ring Version. **LLF:** Luer-Lock Female. **LSM:** Luer-Slip Male

Diameter (mm)	Pore Size	Pre-Filter	Item Number	Description	Housing	Sterile	inlet / outlet
15	0.2	-	5077921D	FPT150020	USV	-	LLF / LSM
	0.2	-	5121440D	FPT140020	USV	-	LLF / MiniTip
	0.45	-	5077924D	FPT150045	USV	-	LLF / LSM
	0.45	-	5120818D	FPT140045	USV	-	LLF / MiniTip
	0.2	-	5077923D	FPT150020S	USV	yes	LLF / LSM
	0.45	-	5077925D	FPT150045S	USV	yes	LLF / LSM
	0.2	-	5121442D	FPT140020S	USV	yes	LLF / MiniTip
	0.45	-	5126631D	FPT140045S	USV	yes	LLF / MiniTip
	0.2	yes		FPT150020V	USV	-	LLF / LSM
	0.45	yes		FPT150045V	USV	-	LLF / LSM
	0.2	yes		FPT150020VS	USV	yes	LLF / LSM
	0.45	yes		FPT150045VS	USV	yes	LLF / LSM
25	0.2	-	5077929D	FPT250020	USV	-	LLF / LSM
	0.45	-	5077937D	FPT250045	USV	-	LLF / LSM
	0.2	-	5077932D	FPT250020S	USV	yes	LLF / LSM
	0.45	-	5077939D	FPT250045S	USV	yes	LLF / LSM
	0.2	yes		FPT250020V	USV	-	LLF / LSM
	0.45	yes		FPT250045V	USV	-	LLF / LSM
	0.2	yes		FPT250020VS	USV	yes	LLF / LSM
	0.45	yes		FPT250045VS	USV	yes	LLF / LSM
	0.2	-	5077933D	FPT250020R	RV	-	LLF / LSM
	0.45	-	5077940D	FPT250045R	RV	-	LLF / LSM
	0.2	-	5077934D	FPT250020RS	RV	yes	LLF / LSM
	0.45	-	5077941D	FPT250045RS	RV	yes	LLF / LSM
	0.2	yes	5077935D	FPT250020RV	RV	-	LLF / LSM
	0.45	yes	5077942D	FPT250045RV	RV	-	LLF / LSM
	0.2	yes		FPT250020RVS	RV	yes	LLF / LSM
	0.45	yes		FPT250045RVS	RV	yes	LLF / LSM
30	0.2	-	5077959D	FPT300020	USV	-	LLF / LSM
	0.45	-	5077963D	FPT300045	USV	-	LLF / LSM
	0.2	-	5120722D	FPT300020S	USV	yes	LLF / LSM
	0.45	-	5120723D	FPT300045S	USV	yes	LLF / LSM
	0.2	yes		FPT300020V	USV	-	LLF / LSM
	0.45	yes		FPT300045V	USV	-	LLF / LSM
	0.2	yes		FPT300020VS	USV	yes	LLF / LSM
	0.45	yes		FPT300045VS	USV	yes	LLF / LSM
	0.2	-	5077960D	FPT300020R	RV	-	LLF / LSM
	0.45	-	5077964D	FPT300045R	RV	-	LLF / LSM
	0.2	-	5123281D	FPT300020RS	RV	yes	LLF / LSM
	0.45	-		FPT300045RS	RV	yes	LLF / LSM
	0.2	yes	5077961D	FPT300020RV	RV	-	LLF / LSM
	0.45	yes	5077965D	FPT300045RV	RV	-	LLF / LSM
	0.2	yes		FPT300020RVS	RV	yes	LLF / LSM
	0.45	yes		FPT300045RVS	RV	yes	LLF / LSM



DIAFIL - Polyvinylidene fluoride (PVDF)

Polyvinylidene fluoride membranes are used for general biological filtration and in cases where high protein recovery is desired. It has slight hydrophilic properties and can be used for clear filtration and sterilization of aqueous solutions.

USV: Ultrasonic Welded Version. **RV:** Ring Version. **LLF:** Luer-Lock Female. **LSM:** Luer-Slip Male

Diameter (mm)	Pore Size	Pre-Filter	Item Number	Description	Housing	Sterile	inlet / outlet
15	0.2	-	5077973D	FPV150020	USV	-	LLF / LSM
	0.2	-	5123458D	FPV140020	USV	-	LLF / MiniTip
	0.45	-	5077975D	FPV150045	USV	-	LLF / LSM
	0.45	-	5123457D	FPV140045	USV	-	LLF / MiniTip
	0.2	-	5077974D	FPV150020S	USV	yes	LLF / LSM
	0.45	-	5077976D	FPV150045S	USV	yes	LLF / LSM
	0.2	-	5123378D	FPV140020S	USV	yes	LLF / MiniTip
	0.45	-	5123552D	FPV140045S	USV	yes	LLF / MiniTip
	0.2	yes		FPV150020V	USV	-	LLF / LSM
	0.45	yes		FPV150045V	USV	-	LLF / LSM
	0.2	yes		FPV150020VS	USV	yes	LLF / LSM
	0.45	yes		FPV150045VS	USV	yes	LLF / LSM
25	0.2	-	5077979D	FPV250020	USV	-	LLF / LSM
	0.45	-	5077984D	FPV250045	USV	-	LLF / LSM
	0.2	-	5077980D	FPV250020S	USV	yes	LLF / LSM
	0.45	-	5077985D	FPV250045S	USV	yes	LLF / LSM
	0.2	yes		FPV250020V	USV	-	LLF / LSM
	0.45	yes		FPV250045V	USV	-	LLF / LSM
	0.2	yes		FPV250020VS	USV	yes	LLF / LSM
	0.45	yes		FPV250045VS	USV	yes	LLF / LSM
	0.2	-	5077981D	FPV250020R	RV	-	LLF / LSM
	0.45	-	5077986D	FPV250045R	RV	-	LLF / LSM
	0.2	-	5077982D	FPV250020RS	RV	yes	LLF / LSM
	0.45	-	5077987D	FPV250045RS	RV	yes	LLF / LSM
	0.2	yes	5077983D	FPV250020RV	RV	-	LLF / LSM
	0.45	yes	5077988D	FPV250045RV	RV	-	LLF / LSM
	0.2	yes		FPV250020RVS	RV	yes	LLF / LSM
	0.45	yes		FPV250045RVS	RV	yes	LLF / LSM
30	0.2	-	5120247D	FPV300020	USV	-	LLF / LSM
	0.45	-	5078007D	FPV300045	USV	-	LLF / LSM
	0.2	-	5120181D	FPV300020S	USV	yes	LLF / LSM
	0.45	-	5126530D	FPV300045S	USV	yes	LLF / LSM
	0.2	yes		FPV300020V	USV	-	LLF / LSM
	0.45	yes		FPV300045V	USV	-	LLF / LSM
	0.2	yes		FPV300020VS	USV	yes	LLF / LSM
	0.45	yes		FPV300045VS	USV	yes	LLF / LSM
	0.2	-	5078005D	FPV300020R	RV	-	LLF / LSM
	0.45	-	5078008D	FPV300045R	RV	-	LLF / LSM
	0.2	-		FPV300020RS	RV	yes	LLF / LSM
	0.45	-		FPV300045RS	RV	yes	LLF / LSM
	0.2	yes	5078006D	FPV300020RV	RV	-	LLF / LSM
	0.45	yes	5078009D	FPV300045RV	RV	-	LLF / LSM
	0.2	yes		FPV300020RVS	RV	yes	LLF / LSM
	0.45	yes		FPV300045RVS	RV	yes	LLF / LSM



DIAFIL - Polypropylene (PP)

Polypropylene membranes are slightly 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 both aqueous and organic media.

USV: Ultrasonic Welded Version. RV: Ring Version. LLF: Luer-Lock Female. LSM: Luer-Slip Male

Diameter (mm)	Pore Size	Pre-Filter	Item Number	Description	Housing	Sterile	inlet / outlet
15	0.2	-	5121776D	FPP150020	USV	-	LLF / LSM
	0.2	-	5077896D	FPP140020	USV	-	LLF / MiniTip
	0.45	-	5077903D	FPP150045	USV	-	LLF / LSM
	0.45	-	5120188D	FPP140045	USV	-	LLF / MiniTip
	0.2	-	5122226D	FPP150020S	USV	yes	LLF / LSM
	0.45	-	5121819D	FPP150045S	USV	yes	LLF / LSM
	0.2	-		FPP140020S	USV	yes	LLF / MiniTip
	0.45	-		FPP140045S	USV	yes	LLF / MiniTip
	0.2	yes		FPP150020V	USV	-	LLF / LSM
	0.45	yes		FPP150045V	USV	-	LLF / LSM
	0.2	yes		FPP150020VS	USV	yes	LLF / LSM
	0.45	yes		FPP150045VS	USV	yes	LLF / LSM
25	0.2	-	5077906D	FPP250020	USV	-	LLF / LSM
	0.45	-	5077910D	FPP250045	USV	-	LLF / LSM
	0.2	-	5122608D	FPP250020S	USV	yes	LLF / LSM
	0.45	-		FPP250045S	USV	yes	LLF / LSM
	0.2	yes		FPP250020V	USV	-	LLF / LSM
	0.45	yes		FPP250045V	USV	-	LLF / LSM
	0.2	yes		FPP250020VS	USV	yes	LLF / LSM
	0.45	yes		FPP250045VS	USV	yes	LLF / LSM
	0.2	-		FPP250020R	RV	-	LLF / LSM
	0.45	-		FPP250045R	RV	-	LLF / LSM
	0.2	-		FPP250020RS	RV	yes	LLF / LSM
	0.45	-		FPP250045RS	RV	yes	LLF / LSM
	0.2	yes	5125077D	FPP250020RV	RV	-	LLF / LSM
	0.45	yes	5123178D	FPP250045RV	RV	-	LLF / LSM
	0.2	yes		FPP250020RVS	RV	yes	LLF / LSM
	0.45	yes		FPP250045RVS	RV	yes	LLF / LSM
30	0.2	-	5122517D	FPP300020	USV	-	LLF / LSM
	0.45	-	5120010D	FPP300045	USV	-	LLF / LSM
	0.2	-	5123412D	FPP300020S	USV	yes	LLF / LSM
	0.45	-		FPP300045S	USV	yes	LLF / LSM
	0.2	yes		FPP300020V	USV	-	LLF / LSM
	0.45	yes		FPP300045V	USV	-	LLF / LSM
	0.2	yes		FPP300020VS	USV	yes	LLF / LSM
	0.45	yes		FPP300045VS	USV	yes	LLF / LSM
	0.2	-		FPP300020R	RV	-	LLF / LSM
	0.45	-		FPP300045R	RV	-	LLF / LSM
	0.2	-		FPP300020RS	RV	yes	LLF / LSM
	0.45	-		FPP300045RS	RV	yes	LLF / LSM
	0.2	yes		FPP300020RV	RV	-	LLF / LSM
	0.45	yes	5120648D	FPP300045RV	RV	-	LLF / LSM
	0.2	yes		FPP300020RVS	RV	yes	LLF / LSM
	0.45	yes		FPP300045RVS	RV	yes	LLF / LSM



DIAFIL - Polyethersulfone (PS)

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.

USV: Ultrasonic Welded Version. **RV:** Ring Version. **LLF:** Luer-Lock Female. **LSM:** Luer-Slip Male

Diameter (mm)	Pore Size	Pre-Filter	Item Number	Description	Housing	Sterile	inlet / outlet
15	0.2	-	5121443D	FPS150020	USV	-	LLF / LSM
	0.2	-	5123059D	FPS140020	USV	-	LLF / MiniTip
	0.45	-	5122371D	FPS150045	USV	-	LLF / LSM
	0.45	-	5122338D	FPS140045	USV	-	LLF / MiniTip
	0.2	-	5120349D	FPS150020S	USV	yes	LLF / LSM
	0.45	-	5120350D	FPS150045S	USV	yes	LLF / LSM
	0.2	-	5123056D	FPS140020S	USV	yes	LLF / MiniTip
	0.45	-		FPS140045S	USV	yes	LLF / MiniTip
	0.2	yes		FPS150020V	USV	-	LLF / LSM
	0.45	yes		FPS150045V	USV	-	LLF / LSM
	0.2	yes		FPS150020VS	USV	yes	LLF / LSM
	0.45	yes		FPS150045VS	USV	yes	LLF / LSM
25	0.2	-	5077915D	FPS250020	USV	-	LLF / LSM
	0.45	-	5077917D	FPS250045	USV	-	LLF / LSM
	0.2	-	5077916D	FPS250020S	USV	yes	LLF / LSM
	0.45	-	5077918D	FPS250045S	USV	yes	LLF / LSM
	0.2	yes		FPS250020V	USV	-	LLF / LSM
	0.45	yes		FPS250045V	USV	-	LLF / LSM
	0.2	yes		FPS250020VS	USV	yes	LLF / LSM
	0.45	yes		FPS250045VS	USV	yes	LLF / LSM
	0.2	-		FPS250020R	RV	-	LLF / LSM
	0.45	-		FPS250045R	RV	-	LLF / LSM
	0.2	-		FPS250020RS	RV	yes	LLF / LSM
	0.45	-		FPS250045RS	RV	yes	LLF / LSM
	0.2	yes	5120566D	FPS250020RV	RV	-	LLF / LSM
	0.45	yes		FPS250045RV	RV	-	LLF / LSM
	0.2	yes		FPS250020RVS	RV	yes	LLF / LSM
	0.45	yes		FPS250045RVS	RV	yes	LLF / LSM
30	0.2	-	5122019D	FPS300020	USV	-	LLF / LSM
	0.45	-	5120513D	FPS300045	USV	-	LLF / LSM
	0.2	-	5121487D	FPS300020S	USV	yes	LLF / LSM
	0.45	-	5121483D	FPS300045S	USV	yes	LLF / LSM
	0.2	yes		FPS300020V	USV	-	LLF / LSM
	0.45	yes		FPS300045V	USV	-	LLF / LSM
	0.2	yes		FPS300020VS	USV	yes	LLF / LSM
	0.45	yes		FPS300045VS	USV	yes	LLF / LSM
	0.2	-		FPS300020R	RV	-	LLF / LSM
	0.45	-		FPS300045R	RV	-	LLF / LSM
	0.2	-		FPS300020RS	RV	yes	LLF / LSM
	0.45	-		FPS300045RS	RV	yes	LLF / LSM
	0.2	yes		FPS300020RV	RV	-	LLF / LSM
	0.45	yes		FPS300045RV	RV	-	LLF / LSM
	0.2	yes		FPS300020RVS	RV	yes	LLF / LSM
	0.45	yes		FPS300045RVS	RV	yes	LLF / LSM



DIAFIL - Mixed Cellulose Ester (CM)

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.

USV: Ultrasonic Welded Version. RV: Ring Version. LLF: Luer-Lock Female. LSM: Luer-Slip Male

Diameter (mm)	Pore Size	Pre-Filter	Item Number	Description	Housing	Sterile	inlet / outlet
15	0.2	-	5125871D	FCM150020	USV	-	LLF / LSM
	0.2	-		FCM140020	USV	-	LLF / MiniTip
	0.45	-		FCM150045	USV	-	LLF / LSM
	0.45	-		FCM140045	USV	-	LLF / MiniTip
	0.2	-	5122230D	FCM150020S	USV	yes	LLF / LSM
	0.45	-	5122229D	FCM150045S	USV	yes	LLF / LSM
	0.2	-		FCM140020S	USV	yes	LLF / MiniTip
	0.45	-		FCM140045S	USV	yes	LLF / MiniTip
	0.2	yes		FCM150020V	USV	-	LLF / LSM
	0.45	yes		FCM150045V	USV	-	LLF / LSM
	0.2	yes		FCM150020VS	USV	yes	LLF / LSM
	0.45	yes		FCM150045VS	USV	yes	LLF / LSM
25	0.2	-	5122688D	FCM250020	USV	-	LLF / LSM
	0.45	-	5120155D	FCM250045	USV	-	LLF / LSM
	0.2	-	5122687D	FCM250020S	USV	yes	LLF / LSM
	0.45	-		FCM250045S	USV	yes	LLF / LSM
	0.2	yes		FCM250020V	USV	-	LLF / LSM
	0.45	yes		FCM250045V	USV	-	LLF / LSM
	0.2	yes		FCM250020VS	USV	yes	LLF / LSM
	0.45	yes		FCM250045VS	USV	yes	LLF / LSM
	0.2	-		FCM250020R	RV	-	LLF / LSM
	0.45	-	5077033D	FCM250045R	RV	-	LLF / LSM
	0.2	-		FCM250020RS	RV	yes	LLF / LSM
	0.45	-		FCM250045RS	RV	yes	LLF / LSM
	0.2	yes		FCM250020RV	RV	-	LLF / LSM
	0.45	yes		FCM250045RV	RV	-	LLF / LSM
	0.2	yes		FCM250020RVS	RV	yes	LLF / LSM
	0.45	yes		FCM250045RVS	RV	yes	LLF / LSM
30	0.2	-	5077034D	FCM300020	USV	-	LLF / LSM
	0.45	-	5077035D	FCM300045	USV	-	LLF / LSM
	0.2	-	5121015D	FCM300020S	USV	yes	LLF / LSM
	0.45	-	5125653D	FCM300045S	USV	yes	LLF / LSM
	0.2	yes		FCM300020V	USV	-	LLF / LSM
	0.45	yes		FCM300045V	USV	-	LLF / LSM
	0.2	yes		FCM300020VS	USV	yes	LLF / LSM
	0.45	yes		FCM300045VS	USV	yes	LLF / LSM
	0.2	-		FCM300020R	RV	-	LLF / LSM
	0.45	-		FCM300045R	RV	-	LLF / LSM
	0.2	-		FCM300020RS	RV	yes	LLF / LSM
	0.45	-		FCM300045RS	RV	yes	LLF / LSM
	0.2	yes		FCM300020RV	RV	-	LLF / LSM
	0.45	yes		FCM300045RV	RV	-	LLF / LSM
	0.2	yes		FCM300020RVS	RV	yes	LLF / LSM
	0.45	yes		FCM300045RVS	RV	yes	LLF / LSM



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.

USV: Ultrasonic Welded Version. RV: Ring Version. LLF: Luer-Lock Female. LSM: Luer-Slip Male

Diameter (mm)	Pore Size	Pre-Filter	Item Number	Description	Housing	Sterile	inlet / outlet
15	0.2	-	5123280D	FCA150020	USV	-	LLF / LSM
	0.2	-	5123453D	FCA140020	USV	-	LLF / MiniTip
	0.45	-	5077002D	FCA150045	USV	-	LLF / LSM
	0.45	-	5123456D	FCA140045	USV	-	LLF / MiniTip
	0.2	-	5123091D	FCA150020S	USV	yes	LLF / LSM
	0.45	-		FCA150045S	USV	yes	LLF / LSM
	0.2	-		FCA140020S	USV	yes	LLF / MiniTip
	0.45	-		FCA140045S	USV	yes	LLF / MiniTip
	0.2	yes		FCA150020V	USV	-	LLF / LSM
	0.45	yes		FCA150045V	USV	-	LLF / LSM
	0.2	yes		FCA150020VS	USV	yes	LLF / LSM
	0.45	yes		FCA150045VS	USV	yes	LLF / LSM
25	0.2	-	5077007D	FCA250020	USV	-	LLF / LSM
	0.45	-	5077010D	FCA250045	USV	-	LLF / LSM
	0.2	-	5120518D	FCA250020S	USV	yes	LLF / LSM
	0.45	-	5123031D	FCA250045S	USV	yes	LLF / LSM
	0.2	yes		FCA250020V	USV	-	LLF / LSM
	0.45	yes		FCA250045V	USV	-	LLF / LSM
	0.2	yes		FCA250020VS	USV	yes	LLF / LSM
	0.45	yes		FCA250045VS	USV	yes	LLF / LSM
	0.2	-	5077008D	FCA250020R	RV	-	LLF / LSM
	0.45	-	5077013D	FCA250045R	RV	-	LLF / LSM
	0.2	-	5077009D	FCA250020RS	RV	yes	LLF / LSM
	0.45	-	5077014D	FCA250045RS	RV	yes	LLF / LSM
	0.2	yes		FCA250020RV	RV	-	LLF / LSM
	0.45	yes	5126244D	FCA250045RV	RV	-	LLF / LSM
	0.2	yes	5120357D	FCA250020RVS	RV	yes	LLF / LSM
	0.45	yes		FCA250045RVS	RV	yes	LLF / LSM
30	0.2	-	5077027D	FCA300020	USV	-	LLF / LSM
	0.45	-	5077028D	FCA300045	USV	-	LLF / LSM
	0.2	-	5122117D	FCA300020S	USV	yes	LLF / LSM
	0.45	-	5120389D	FCA300045S	USV	yes	LLF / LSM
	0.2	yes		FCA300020V	USV	-	LLF / LSM
	0.45	yes		FCA300045V	USV	-	LLF / LSM
	0.2	yes	5123134D	FCA300020VS	USV	yes	LLF / LSM
	0.45	yes	5123138D	FCA300045VS	USV	yes	LLF / LSM
	0.2	-	5121824D	FCA300020R	RV	-	LLF / LSM
	0.45	-		FCA300045R	RV	-	LLF / LSM
	0.2	-		FCA300020RS	RV	yes	LLF / LSM
	0.45	-		FCA300045RS	RV	yes	LLF / LSM
	0.2	yes		FCA300020RV	RV	-	LLF / LSM
	0.45	yes		FCA300045RV	RV	-	LLF / LSM
	0.2	yes		FCA300020RVS	RV	yes	LLF / LSM
	0.45	yes		FCA300045RVS	RV	yes	LLF / LSM



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.

USV: Ultrasonic Welded Version. **RV:** Ring Version. **LLF:** Luer-Lock Female. **LSM:** Luer-Slip Male

Diameter (mm)	Pore Size	Pre-Filter	Item Number	Description	Housing	Sterile	inlet / outlet
15	0.2	-	5077326D	FGF150001	USV	-	LLF / LSM
	0.2	-	5077325D	FGF140001	USV	-	LLF / MiniTip
	0.2	-	5077327D	FGF150001S	USV	yes	LLF / LSM
	0.2	-	5122757D	FGF140001S	USV	yes	LLF / MiniTip
25	0.2	-	5077329D	FGF250001	USV	-	LLF / LSM
	0.2	-	5077331D	FGF250001S	USV	yes	LLF / LSM
	0.2	-	5077332D	FGF250001R	RV	-	LLF / LSM
	0.2	-	5077333D	FGF250001RS	RV	yes	LLF / LSM
30	0.2	-	5077342D	FGF300001	USV	-	LLF / LSM
	0.2	-	5120551D	FGF300001S	USV	yes	LLF / LSM
	0.2	-	5077343D	FGF300001R	USV	-	LLF / LSM
	0.2	-		FGF300001RS	RV	yes	LLF / LSM

DIAFIL - Inline Filter 50mm

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

Inline filters come with PTFE Membranes (for venting applications), and PS and PA Membranes (for liquid media) in different pore sizes, with and without pre-filters.

Due to its high filter area of 1735mm² 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 500ml), depending on the particle load of the filtrated suspension.



Our Capabilities and Expertise

As a manufacturer of filtration products and writing equipment for measurement technology we are familiar with the development, production, and assembly of plastic products and composite components and are pleased to offer our production expertise to our customers. Our services include:

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Whatever your custom needs, we provide the right solution!



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Graphic Controls is the original chart paper company, offering the widest assortment of chart papers for all departments in the Acute Care market from labor & delivery to cardiology to the boiler room and laboratory.

For over 100 years we've been producing charts and pens for recording instruments servicing 50,000 customers in over 80 countries worldwide.

We are a global corporation with manufacturing operations and sales offices in the USA, Canada, Europe and the UK. Our products are found in many industries including Medical, Gas & Oil and Gaming & Entertainment.

Dia Nielsen - A Graphic Controls Company

Dia Nielsen was founded in 1955 by Emmy and Harald Nielsen in Düren, Germany with the idea that all accessories for recording instruments can be obtained from one location.

Within 25 years the organization grew into multiple locations and outlets in France, Italy and the US in order to keep up with market demands. This expansion continued until 1996 as Schleicher & Schuell integrated with DIA-Nielsen, intensifying the existing relationship with Batra, which lead to their merger in 2002.

In 1999 measurement technology expanded to include the production of disposable filters for life sciences -- offering standard syringe filters for micro and particle applications to customized filtering solutions.

We are focused from design and development, to manufacturing within a clean room environment, taking your idea from concept to completion.

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