Syringe Filters Selection Guide

1) Select Filter Diameter

Sample volume amount	≤10 mL	10-100mL
Syringe filter diameter	13mm	30mm

2) Select Pore Size of the Filter Membrane

Sample physical nature and analytical methods	Filter membrane pore size
Viscous materials or samples that contain high concentrations of solid particulate matter and mobile phase filtration	0.45 µm
HPLC samples to be analyzed with column packed with > 3µm materials and GC, SFC, CE, GPC, and Flash samples	0.45 µm
HPLC samples to be analyzed with column packed with < 3µm materials and GC, SFC, CE, GPC, and Flash samples	0.22 µm
General samples that contain fine particulate matter prior to GC, SFC, CE, GPC, and Flash samples, and sterile-filtration	0.22 µm
Gas, liquid sample and solvent prior to GC, LC/MS and UHPLC, and other methods sensitive to particulate	0.22 µm

3) Select Filter Membrane According to the Sample Characteristics and Filtering Objective

Membrane Type	Recommended Application
Nylon	Hydrophilic and commonly used for aqueous or mixed organic sample prep and HPLC, GC or dissolution sample analysis, such as bases, most HPLC solvents, alcohols, aromatic hydrocarbons, and THF. Not for strong acids, strong bases and high protein recovery. Excellent flow rates with most sample matrices and extremely low in extractables.
PTFE	Hydrophobic and perfect for organic solvent-based, acidic or basic samples and all solvents, such as aggressive solvents, strong acids and bases, alcohols, and aromatics. Chemically resistant to all solvents and has an excellent thermal stability to high temperature fluids. It can be used with aqueous samples after pre-wetting with small amount of alcohol and then flushing with water.
PVDF	Hydrophilic and excellent for HPLC and GC sample prep/clean up and protein-based samples due to broad chemical compatibility, the nature of a low protein binder, and low UV adsorbing extractables. It can be used for alcohols, weak acids, proteins, peptides and other biomolecules for high protein recovery .

PES	Hydrophilic and excellent for tissue culture, media, and buffers due to very low protein and nucleic acid binding and excellent flow rates. The PES membrane shows better chemical resistance than cellulose acetate. It is widely used in clinical/toxicology, ion chromatography, ICP-MS, AAS, and capillary electrophoresis for strong bases, alcohols, proteins, peptides.
MCE	Hydrophilic and ideal for aqueous samples filtration that need higher flow rates and larger volume, including clarification or sterilization of aqueous solutions, particulate analysis and removal, air monitoring, microbial analysis, cytology, HPLC samples prep/clean up, virus concentration, biological assays, food microbiology (enumeration of E. coli in foods), bacteriological studies.

Quick Selection Guide

Solvents		**Aqueous**			
Non-Aqueous	Aqueous Mixtures	Hydrophilic			
Hydrophobic	Hydrophilic	Protein Analysis Biological Samples	Sterilization Microbial Analysis	HPLC and GC Biological Sample	Solvent Mixtures Sample Prep
PTFE	Nylon	PES	MCE	PVDF	Nylon