



Sample Prep

Simplify Sample Prep and Protect Analytical Equipment With Syringe Filters

- Cost-effective, reliable filtration.
- Protect analytical columns and instruments.
- Achieve more reproducible analyses.



RESTEK

Pure Chromatography

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The importance of clean sample extracts in maintaining analytical instrumentation cannot be overstated. Particulates commonly found in extracts can quickly damage instrument components, causing costly downtime and repair. Chromatographic columns, injectors, detectors, and small diameter tubing are easily plugged by particulates. Even if plugging does not occur, the slow accumulation of particles over time can affect flow rates and create interferences that reduce overall reproducibility. Clean extracts will greatly extend the life of costly chromatographic columns and replacement parts, particularly for LC systems.

Sample cleanup to remove particulates can be accomplished through the use of inexpensive and easy-to-use syringe filters. These membranes vary in properties and should be selected based on matrix and solvent characteristics (Table I). With a female luer lock inlet and male slip outlet, the syringe filter easily fits onto the end of the disposable syringe containing the sample, as shown in Figure 1. The extract is gently pushed through the filter into a sample vial for injection, removing damaging particulates from the final extract. This connection can be further strengthened by using a syringe with a luer lock tip, creating a more secure connection that can withstand higher filtration pressure.

Table I: Membrane selection guide.

Membrane	Properties	Applications	Incompatible with
Cellulose Acetate	hydrophilic	aqueous solutions	organic solvents
Nylon	hydrophilic, low protein binding	bases, HPLC solvents, alcohols, aromatic hydrocarbons	acids, aggressive halogenated hydrocarbons, proteins
PES	hydrophilic, low protein binding, fast flow rates	filtration of buffers & culture media	—
PVDF	hydrophilic, low protein binding	alcohols, biomolecules	bases, esters, ethers, ketones
PTFE	hydrophobic	organic solvents, acids, alcohols, bases, aromatics	aqueous samples without pre-wetting (to avoid high back pressure)
Polypropylene (PP)	hydrophilic, low protein binding, high solvent resistance, good thermal compatibility	biological samples, solvents, aqueous solutions	strong oxidizing acids, halogenated and aromatic hydrocarbons

Cellulose Acetate, Nylon, PES, PVDF, PP—hydrophilic applications; PTFE—hydrophobic applications.

With a variety of syringe filters available, understanding the role of diameter, pore size, and membrane will aid in proper selection. Sample volume will determine the choice of diameter, ensuring that the filter is not overloaded. Porosity is dependent on application and, in the case of LC, the particle size of the column packing. Tables II and III provide guidelines for selecting filter size and porosity. Use these guides to select the right filter for your application. Investing in inexpensive syringe filters is a cost-effective way to reduce variability and protect expensive equipment.

Table II: Size selection guide.

Size	Sample volume
4 mm ID	<1 mL
13 mm ID	1–10 mL
25 mm ID	10–100 mL
30 mm ID	100–200 mL

Table III: Porosity selection guide.

Porosity	LC column compatibility
0.22 µm	Use with ≤3 µm packings or to remove microbial growth
0.45 µm	Use with >3 µm packings

More Choices. Same Great Savings!

Syringe Filters with Luer Lock Inlet

- Luer lock inlet offers leak-tight syringe connection.
- Variety of filter types, porosities, and diameters.
- Labeled (13, 25, and 30 mm, only) and color coded for easy identification.
- Rugged polypropylene housing.
- Autoclavable to 121 °C for 15 minutes.
- Quantity break pricing for greater savings.

Note: Syringe filters are for laboratory use only.



Description	Color	Diameter	Porosity	qty.	cat.#
Cellulose Acetate					
Syringe Filter	Green	4 mm	0.22 µm	100-pk.	23972
	Blue	4 mm	0.45 µm	100-pk.	23973
	Red	13 mm	0.22 µm	100-pk.	26156
	Red	13 mm	0.45 µm	100-pk.	26155
	Red	25 mm	0.22 µm	100-pk.	26158
	Red	25 mm	0.45 µm	100-pk.	26157
	Red	30 mm	0.22 µm	100-pk.	23982
	Red	30 mm	0.45 µm	100-pk.	23983
Nylon					
Syringe Filter	Yellow	4 mm	0.22 µm	100-pk.	23970
	Pink	4 mm	0.45 µm	100-pk.	23971
	Pink	13 mm	0.22 µm	100-pk.	26146
	Pink	13 mm	0.45 µm	100-pk.	26147
	Pink	25 mm	0.22 µm	100-pk.	26148
	Pink	25 mm	0.45 µm	100-pk.	26149
	Pink	30 mm	0.22 µm	100-pk.	23980
	Pink	30 mm	0.45 µm	100-pk.	23981
PES (polyethersulfone)					
Syringe Filter	White	4 mm	0.22 µm	100-pk.	23978
	Blue	4 mm	0.45 µm	100-pk.	23979
	Green	13 mm	0.22 µm	100-pk.	23966
	Green	13 mm	0.45 µm	100-pk.	23967
	Green	25 mm	0.22 µm	100-pk.	23968
	Green	25 mm	0.45 µm	100-pk.	23969
	Green	30 mm	0.22 µm	100-pk.	23988
	Green	30 mm	0.45 µm	100-pk.	23989
PP (polypropylene)					
Syringe Filter	Blue	25 mm	0.22 µm	100-pk.	28935
	Black	25 mm	0.45 µm	100-pk.	28936
PTFE (polytetrafluoroethylene)					
Syringe Filter	Purple	4 mm	0.22 µm	100-pk.	23974
	Orange	4 mm	0.45 µm	100-pk.	23975
	White	13 mm	0.22 µm	100-pk.	26142
	White	13 mm	0.45 µm	100-pk.	26143
	White	25 mm	0.22 µm	100-pk.	26144
	White	25 mm	0.45 µm	100-pk.	26145
	White	30 mm	0.22 µm	100-pk.	23984
	White	30 mm	0.45 µm	100-pk.	23985
PVDF (polyvinylidene difluoride)					
Syringe Filter	Brown	4 mm	0.22 µm	100-pk.	23976
	Red	4 mm	0.45 µm	100-pk.	23977
	Blue	13 mm	0.22 µm	100-pk.	26150
	Blue	13 mm	0.45 µm	100-pk.	26151
	Blue	25 mm	0.22 µm	100-pk.	26152
	Blue	25 mm	0.45 µm	100-pk.	26153
	Blue	30 mm	0.22 µm	100-pk.	23986
	Blue	30 mm	0.45 µm	100-pk.	23987

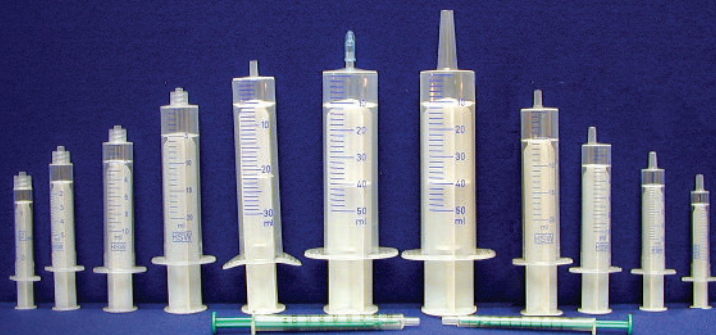
Cellulose Acetate, Nylon, PES, PP, PVDF—hydrophilic applications
PTFE—hydrophobic applications
Syringe filters are for laboratory use only.

Top 7 Reasons to Use Restek Syringe Filters

1	Protect any analytical system.
2	Extend LC column lifetime.
3	Achieve more reproducible analyses.
4	Variety of membranes, porosities, and diameters available.
5	Luer lock inlet provides strong, leak-tight syringe connection to withstand filtration pressure.
6	Rugged construction— autoclavable to 121 °C for 15 minutes (75 psi).
7	Labeled (13, 25, and 30 mm, only) and color coded for easy identification.

NORM-JECT and HENKE-JECT Syringes

Highly inert and chemically resistant—
perfect for chemically sensitive
applications!



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