



User Guide

Non-Sterile 25 mm Millex® Syringe Filter

Millex®-FG, FH, HV, LCR, LS

For laboratory use only



Introduction

This document provides chemical compatibility information, operating steps, and specifications for the 25 millimeter (mm) Millex® syringe filter with male Luer-slip outlet. This syringe filter is non-sterile, single-use, and disposable.

The Millex® syringe filter consists of a membrane sealed in a high density polyethylene housing. For details on the type of membrane in your Millex® syringe filter, see the "Specifications" section. The 25 mm syringe filter is recommended for filtering 10–100 milliliter (mL) volumes to remove particles prior to instrumentation analysis.

| Syringe filter | Membrane | Application |
|----------------|--------------|-------------------------------------------------------------------------------------|
| FG | 0.20 µm PTFE | Remove fine particles from organic solutions. Also used for venting applications. |
| FH | 0.45 µm PTFE | Clarify organic solutions. |
| HV | 0.45 µm PVDF | Clarify protein-containing solutions, as well as aqueous or mild organic solutions. |
| LCR | 0.45 µm PTFE | Clarify protein-containing solutions, as well as aqueous or organic solutions. |
| LS | 5.0 µm PTFE | Remove particles from organic solvents. |

Chemical Compatibility

The 25 mm Millex® syringe filter with male Luer-slip outlet is compatible with aqueous, mild organic, and organic solutions. You can use it to filter the agents listed in the following table. This information was developed from technical publications, materials suppliers, and laboratory tests, and is believed to be accurate and reliable. However, because of variability in temperature, concentrations, exposure time, and other factors outside of our control that may affect the use of the unit, Merck Millipore Ltd, does not provide or imply a warranty with respect to such information. Agents not listed below should be tested with the Millex 25 mm syringe filter prior to use.

| Chemical | | | |
|----------------------|---------------------------------|-------------------------|-----------------------|
| Acetic acid, glacial | Dimethyl sulfoxide ¹ | Hydrogen peroxide (3%) | Phenol (10%) |
| Acetone ¹ | Ethers | Isobutyl alcohol | Pyridine ¹ |
| Amyl acetate | Ethyl acetate | Isopropyl acetate | Silicone oils |
| Amyl alcohol | Ethylene glycol | Kerosene | Sulfuric acid (3 N) |
| Benzene | Formaldehyde | Methyl ethyl ketone | Trifluoroacetic acid |
| Benzyl alcohol | Freon® (TF or PCA) | Methyl isobutyl ketone | Tetrahydrofuran |
| Boric acid | solvent | Mineral spirits | Toluene |
| Brine (sea water) | Gasoline | Nitrobenzene | Trichloroethane |
| Butyl alcohol | Glycerine (Glycerol) | Nitrogen | Trichloroethylene |
| Carbon tetrachloride | Helium | Ozone (10 ppm in water) | Xylene |
| Cellosolve® (Ethyl) | Hydrochloric acid | Paraldehyde | |
| solvent | Hydrofluoric acid | Perchloroethylene | |
| Cyclohexane | Hydrogen | Petroleum based oils | |

¹ Not compatible with HV

Chemical Compatibility, continued

You can use 25 mm Millex® syringe filters to filter the agents listed in the following table for low extractable HPLC instrumentation analysis applications.

NOTE: Merck Millipore Ltd. recommends that you discard the first 1 mL or rinse with 1 to 2 mL of primary solvent before sample filtration.

| | | | |
|--------------------------------|--------------------------------|-------------------|--------------------|
| Acetonitrile | Dimethylformamide ² | Hexane | Methylene chloride |
| Chloroform | Dioxane | Isopropyl alcohol | Pentane |
| Dimethylacetamide ² | Ethyl alcohol | Methyl alcohol | Petroleum ether |

² Not compatible with HV

How to Use 25 mm Millex® Syringe Filters

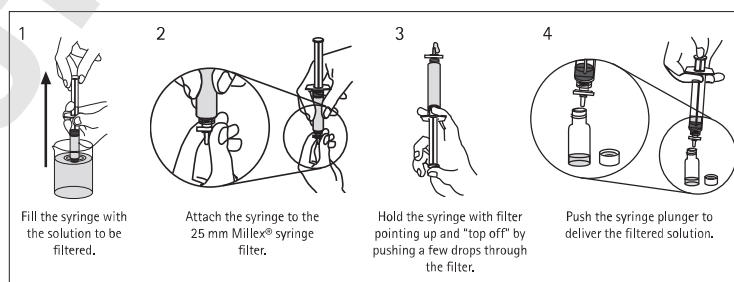
WARNINGS:

- Do not use the 25 mm Millex® syringe filter for direct patient care applications; it is designed for laboratory use only.
- Do not use with syringes smaller than 10 mL because pressures in excess of the maximum pressure rating may be reached, potentially causing damage to the syringe filter and/or personal injury.

CAUTIONS:

- Do not use the 25 mm syringe filter at temperatures above 45 °C (113 °F).
- Do not use the 25 mm syringe filter to filter a protein-containing solution unless binding of the sample to the filter has been evaluated.
- Do not reuse the 25 mm syringe filter.

Instructions for Use



Specifications

| | |
|-------------------------|--------------------------------------------------------------------------------|
| Housing | High density polyethylene |
| Membrane | |
| FG, FH, LS | Hydrophobic Fluoropore™ polytetrafluoroethylene (PTFE) |
| HV | Hydrophilic Durapore® polyvinylidene fluoride (PVDF) |
| LCR | Hydrophilic PTFE |
| Dimensions | |
| Inlet to outlet | 19.8 mm (0.8 in.) |
| Diameter | 30 mm (1.2 in.) |
| Filtration surface area | 3.9 cm ² (0.6 in ²) |
| Pore size | |
| FG | 0.20 µm |
| FH, HV, LCR | 0.45 µm |
| LS | 5.0 µm |
| Temperature limit | 45 °C (113 °F) maximum |
| Pressure limit at 25 °C | 7 bar (100 psi) differential |
| Filtration volume | ≤ 100 mL |
| Hold-up volume | ≤ 0.1 mL after air purge at pressure that exceeds bubble point of the membrane |

Specifications, continued

Typical average flow rate at 20 °C and 10 psi

| | |
|-----|-----------------------|
| FG | 100 mL/min (methanol) |
| FH | 275 mL/min (methanol) |
| HV | 170 mL/min (water) |
| LCR | 70 mL/min (water) |
| LS | 220 mL/min (water) |

Connections Female Luer-Lok™ inlet, male Luer-slip outlet

HPLC Certification

Millex®-LCR syringe filters are tested for UV-absorbing extractables. HPLC analysis of 1 mL samples of both acetonitrile and water collected after discarding the first 1 mL of solvent showed no peaks greater in intensity than 0.004 AUFS (after the column frontal volume) at either 214 nm or 254 nm.

Product Ordering Information

| Millex® Syringe filter | 50/pk | 250/pk | 1000/pk |
|------------------------|-----------|-----------|-----------|
| FG | SLFG025NS | SLFG025NB | SLFG025NK |
| FH | SLFH025NS | SLFH025NB | SLFH025NK |
| HV | SLHV025NS | SLHV025NB | SLHV025NK |
| LCR | SLCR025NS | SLCR025NB | SLCR025NK |
| LS | SLLS025NS | | |

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