

# Whatman Uniflo 25 mm Syringe Filters

## Product Information Sheet

### Introduction

#### Important

Read these instructions carefully before using the products.

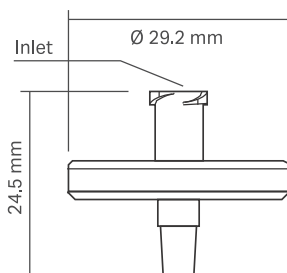
#### Intended use

The products are intended for research use only, and shall not be used in any clinical or *in vitro* procedures for diagnostic purposes.

#### Safety

For use and handling of the products in a safe way, either refer to the Safety section in these instructions or to the Safety Data Sheets where applicable.

### Technical data



### Description

Whatman™ Uniflo™ 25 mm Syringe Filters are disposable filter units designed to provide clean filtrate from small volumes up to 100 mL. They are available in a variety of Whatman membrane choices with a polypropylene overmold housing. Whatman Uniflo 25 mm Syringe Filters are individually Laser etched for easy filter identification and packaged in a clean compact recyclable plastic box to optimize laboratory storage space.

This document provides general information on the products listed below. The specifications in the Technical Data section are intended to provide a basis for establishing functional use, as well as for setting quality assurance test performance levels.

### Filter media

The following filter media choices are available for Whatman Uniflo 25 mm Syringe Filters

#### Nylon (NYL) Membrane

Nylon membrane is hydrophilic and can be used for aqueous and aqueous-organic samples. The membrane offers chemical resistance to most common HPLC solvents. However, it has limited resistance to acids, bases, halogenated hydrocarbons, aldehydes and strong oxidizing agents. The most common application is HPLC sample filtration.

#### Polyethersulfone (PES) Membrane

Polyethersulfone membrane provides durability, high temperature resistance, good chemical compatibility, and low protein absorption. It is particularly suitable for filtration of serum, plasma and tissue culture solutions as well as other protein containing solutions where minimal adsorptive protein loss is desired.

#### Polytetrafluoroethylene (PTFE) Membrane

Polytetrafluoroethylene membrane is hydrophobic and will not allow water to pass without high pressures. Aqueous solutions may be filtered if the membrane is initially "wetted" with alcohol or another appropriate solvent. Polytetrafluoroethylene membrane will stop aqueous aerosols in gas streams.

#### Hydrophilic Polytetrafluoroethylene (H-PTFE) Membrane

Hydrophilic Polytetrafluoroethylene membrane can be used for both aqueous and aggressive organic solvents. This membrane is suitable for uHPLC / HPLC sample preparation as well as many other applications in a busy, high volume lab as its dual capability handles most solvents.

<b>Dimensions:</b>	24.5 mm x 29.2 mm
<b>Filtration Area:</b>	3.45 cm <sup>2</sup>
<b>Operating Pressure:</b>	67.5 psi
<b>Housing:</b>	Polypropylene
<b>Hold-Up Volume:</b>	≤ 100 µL after air purge
<b>Flow Direction:</b>	Flow should enter from inlet
<b>Connectors:</b>	Inlet - Female Luer Lock (FLL) Outlet - Male Luer (ML)
<b>Sterilization:</b>	Autoclave at 121°C at 15 psi for 20 minutes
<b>Biosafe:</b>	Polymer grade and membrane types meet the USP test requirements (for Class VI Plastics)

## Polyvinylidene Difluoride (PVDF) Membrane

Polyvinylidene Difluoride membrane is a suitable choice for most HPLC sample preparation applications. The membrane is hydrophilic with low water breakthrough values. It offers good chemical resistance to all common HPLC solvents, has low protein binding and negligible extractables.

### Typical applications

Filter Media	Typical Application
NYL	Aqueous and/or organic samples; hydrophilic
PES	Aqueous sample
PTFE	Organic based samples Hydrophobic membrane
H-PTFE	Solvents, chemicals, aqueous, and non-aqueous samples Hydrophilic membrane
PVDF	Aqueous and/or organic based samples Low protein binding membrane

## Operating instructions

### Safety

When considering the specific factors of your application, refer to Technical data for correct use. Do not exceed the pressure, temperature, or chemical compatibility recommendations.

High pressures can be obtained when using syringes. The smaller the syringe, the higher the pressure that can be generated. As general guideline, the following pressures can be obtained by hand with the syringes indicated:

Syringe size	20 mL	10 mL	5 mL	3 mL	1 mL
Pressure obtained by hand	80 psi	140 psi	180 psi	200 psi	250 psi

Determine the pressure generated by hand with a specific size syringe and take appropriate safety precautions not to exceed the recommended rating for the device used.



### CAUTION

If the Maximum Pressure is exceeded, bursting of the device may occur resulting in loss of sample or personal injury.

### Efficiency

To maximize filtration throughput, use the largest pore size filter that will provide the required purity. To extend filter life, use low flow rates or pressures.

### Air locks

Air locks can seriously limit flow rates. To eliminate, point the outlet of the filter device upward during the initiation of liquid flow.

### To filter a solution with a syringe

Follow these steps to filtrate a solution using a syringe.

Step	Action
1	Fill the syringe with the solution to be filtered.

Step	Action
2	Secure the filled syringe to the FLL inlet of the syringe filter with a twisting motion.
3	With the outlet pointed upward, gradually apply thumb pressure to the syringe plunger to initiate flow.
4	Continue thumb pressure until all the air in the device is displaced with liquid.
5	Once liquid starts to exit the syringe filter from the outlet, stop applying pressure, point device downward and away from user.
6	Orientate syringe filter over a suitable collection container or other apparatus and apply pressure again to filter sample.

## Integrity test

### Bubble point test

Follow these steps to perform a bubble point test if required for your application.

Step	Action
1	Flush the filter device with 1.0 mL or more of the test fluid.
2	After the filter is completely wet, with the outlet pointed upward, apply air under controlled pressure to the inlet until air breaks through the filter and bubbles can be seen at the outlet.
3	The pressure at which air passes through the wetted filter is the bubble point.

Refer to the table for typical bubble point values.

### Bubble point data

Description	Pore Size ( $\mu\text{m}$ )	Minimum Bubble Point (psi)
NYL	0.2	29
NYL	0.45	20
PES	0.2	40
PES	0.45	33
PTFE <sup>1</sup>	0.2	10
PTFE <sup>1</sup>	0.45	6
H-PTFE	0.2	49
H-PTFE	0.45	28
PVDF	0.2	39
PVDF	0.45	17.5

<sup>1</sup> Bubble Point determined with 95% ethanol (v/v), all others determined with water

## Product table: Whatman Uniflo 25 mm Syringe Filters - Non-Sterile

Product Number	Media	Pore Size ( $\mu\text{m}$ )	Qty./Pkg.
9909-2502	PVDF	0.2	500
9909-2504	PVDF	0.45	500
9917-2504	PVDF	0.45	100
9911-2502	PTFE	0.2	500

Product Number	Media	Pore Size ( $\mu\text{m}$ )	Qty./Pkg.
9911-2504	PTFE	0.45	500
9920-2502	H-PTFE	0.2	100
9921-2502	H-PTFE	0.2	500
9920-2504	H-PTFE	0.45	100
9921-2504	H-PTFE	0.45	500
9910-2502	NYL	0.2	500
9910-2504	NYL	0.45	500
9918-2504	NYL	0.45	100
9912-2502	PES	0.2	500
9912-2504	PES	0.45	500

### Certificate of Conformity

Lot specific Certificate of Conformity for the Whatman Uniflo 25 mm Syringe Filters is available for download at -

<https://www.cytivalifesciences.com/en/us/support/quality/certificates>

cytiva.com

Cytiva and the Drop Logo are trademarks of Global Life Sciences IP Holdco LLC or an affiliate.

Whatman, and Uniflo are trademarks of Global Life Sciences Solutions USA LLC or an affiliate doing business as Cytiva.

All other third-party trademarks are the property of their respective owners.

© 2020 Cytiva

All goods and services are sold subject to the terms and conditions of sale of the supplying company operating within the Cytiva business. A copy of those terms and conditions is available on request. Contact your local Cytiva representative for the most current information.

For local office contact information, visit [cytiva.com/contact](https://www.cytiva.com/contact)

29324809 AD V:7 06/2020

