Whatman Puradisc 25 mm PTFE 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 the *Operating Instructions, on page 2* or to the Safety Data Sheets where applicable.

Description

Puradisc 25 mm PTFE Syringe Filters have been designed to provide pure filtration of solvents, chemicals and non-aqueous solutions and samples. They consist of a polytetrafluoroethylene (PTFE) membrane with a polypropylene (PP) housing.

Disposable filtration devices provide great labor saving efficiency while ensuring consistent filtration when compared to hand assembled filter housings.

This document provides general information on Puradisc 25 mm PTFE Syringe Filters. The specifications in the *Technical Data: Puradisc 25 mm PTFE Syringe Filters, on page 1* are intended to provide the basis for establishing functional use, as well as setting quality assurance test performance levels.

- Hydrophobic PTFE membrane
- Solvent Resistant Membrane
- Polypropylene Housing
- Rugged Construction
- Autoclavable
- Four Pore Sizes Available
- 0.1 µm Filter Device for "Ultra Clean" Applications
- Inlet: Female Luer Lock (FLL)
  Outlet: Male Slip Luer (ML)
- Integrity Testable BP or WBT ('in-situ')

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.

Typical applications for Puradisc 25 mm PTFE Syringe Filters

HPLC, TLC and GC Sample Clarification

HPLC Sample Degassing

HPLC Solvent Filtration

Sterilize Air/Gases

Air/Gas Filtration

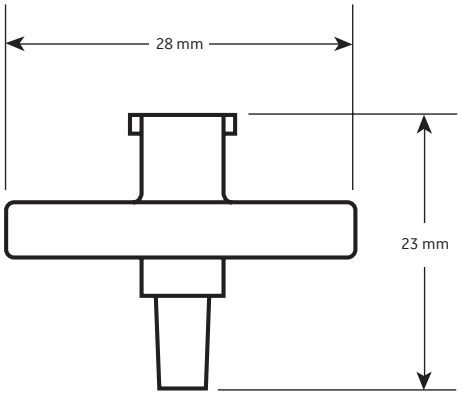
Venting: Sterile isolation; holding vessels

Isolation: Gas passed, liquids/aerosols stopped

Biotech: Sterile vents & exhausts for growth environments, in-line sterilize gases

Electronics: Photoresists, solvents, gases for research

Technical Data: Puradisc 25 mm PTFE Syringe Filters



Connectors:	Inlet - Female Luer Lock (FLL) Outlet - Male Slip Luer (ML)
Weight:	Approximately 2.7 grams
Filtration Area:	Approximately 4.2 cm^2
Maximum Pressure:	5.2 bar (75 psi)
Housing:	Polypropylene (PP)
Filter Media:	Polytetraflouroethylene (PTFE)
Hold-Up Volume:	Full housing 0.16 mL with air purge < 0.1 mL
Flow Direction:	Flow should enter from the inlet
Sterilization:	Autoclave at 121°C (131°C max) for 20 minutes

Operating Instructions

Safety: When considering the special factors of your application, consult the Technical Data to determine correctness of 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 a general guide, the following pressures can be obtained by hand with the syringes indicated: 20 mL, 80 psi; 10 mL, 140 psi; 5 mL, 180 psi; 3 mL, 200 psi; 1 mL, 250 psi. Each user should determine the pressure they can generate by hand with a specific size syringe and take appropriate safety precautions not to exceed the recommended rating for the device used.

CAUTION
If these limitations are exceeded, bursting of the device may occur resulting in loss of sample or personal injury.

Efficiency: To maximise filtration throughput, use the largest pore size filter that will provide the required cleanliness. To extend filter life use low flow rates or pressures.

To use with a Syringe:

Step	Action
1	Fill the syringe with the solution to be filtered.
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 suitable collection container or other apparatus and apply pressure again to filter sample.

Air Lock: Seriously hamper flow rates. To eliminate, point the outlet of the filter device upward during the initiation of liquid flow.

Bubble Point (BP) Test: Flush the filter device with 1.0 mL or more of the test fluid. 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. The pressure at which air passes through the wetted filter is the BP. Refer to table for typical BP values.

Integrity Test Data

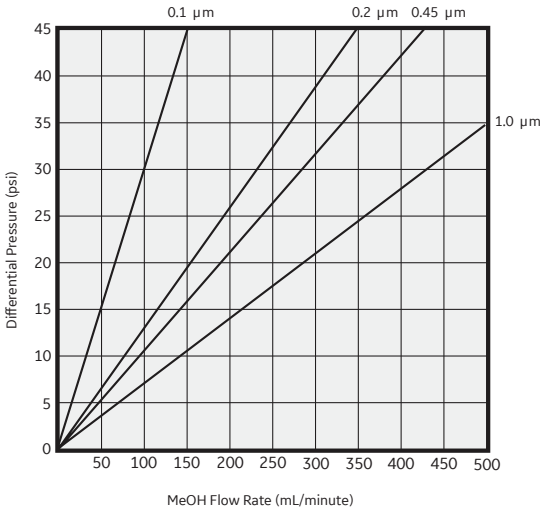
Bubble Point determined with Methanol.

PTFE membrane may need pre-wetting with isopropanol/methanol if filtering a polar liquid.

Water Breakthrough Test is a Pressure Hold Test. Hold the rated pressure for 15 seconds. To remove test water, shake or use vacuum. Sterile water is recommended for "in-situ" testing of critical applications.

Description	Pore Size (µm)	Minimum Bubble Point (psi)	Water Breakthrough (psi)
PTFE	0.1	23	25
PTFE	0.2	15	13
PTFE	0.45	8.5	7
PTFE	1.0	5	3

Typical Methanol Flow Rates for Puradisc 25 mm PTFE Syringe Filters



Chemical Compatibility of Membrane and Housing

Solvent	PP	PTFE
Acetic Acid, 5%	R	R
Acetic Acid, Glacial	R	R
Acetone	R	R
Acetonitrile	R	R
Ammonia, 6N	R	R
Amyl Acetate	R	R
Amyl Alcohol	R	R
Benzene[1]	L	R
Benzyl Alcohol[1]	R	R
Boric Acid	R	R
Butyl Alcohol	R	R
Butyl Chloride[1]	NR	R
Carbon Tetrachloride[1]	L	R
Chloroform[1]	L	R
Chlorobenzene[1]	-	R
Citric Acid	-	R
Cresol[1]	R	R
Cyclohexanone	R	R
Cyclohexane[1]	R	R
Diethyl Acetamide	R	R
Dimethyl Formamide	R	R
Dioxane	R	R

Solvent	PP	PTFE
DMSO	R	R
Ethanol	R	R
Ethers[1]	R	R
Ethyl Acetate	R	R
Ethylene Glycol	R	R
Formaldehyde[1]	R	R
Formic Acid	R	R
Freon TF[1]	R	R
Hexane	R	R
Hydrochloric Acid, Conc[1]	L	R
Hydrofluoric Acid[1]	L	R
Isobutyl Alcohol	R	R
Isopropyl Alcohol	R	R
Methanol	R	R
Methyl Ethyl Ketone	R	R
Methylene Chloride[1]	L	R
Nitric Acid, Conc[1]	NR	R
Nitric Acid, 6N[1]	L	R
Nitrobenzene[1]	R	R
Pentane[1]	L	R
Perchloro Ethylene[1]	R	R
Phenol 0.5%	R	R
Pyridine	R	R
Sodium Hydroxide, 6N	R	R
Sulfuric Acid, Conc[1]	NR	R
Tetrahydrofuran[1]	L	R
Toluene[1]	L	R
Trichloroethane[1]	R	R
Trichloroethylene[1]	R	R
Water	R	R
Xylene[1]	L	R

[1] Short Term Resistance of Housing

Legend: R = Resistant; LR = Limited Resistant; NR = Non Resistant.

The above data is to be used as a guide only. Testing prior to application is recommended.

Product Table: Puradisc 25 mm PTFE Syringe Filters

Product Number	Product Name	Pore Size (µm)	Media	Qty./Pkg.
6784-2501	Puradisc 25 PTFE	0.1	PTFE	50
6784-2502	Puradisc 25 PTFE	0.2	PTFE	50
6784-2504	Puradisc 25 PTFE	0.45	PTFE	50
6784-2510	Puradisc 25 PTFE	1.0	PTFE	50
6785-2502	Puradisc 25 PTFE	0.2	PTFE	200
6785-2504	Puradisc 25 PTFE	0.45	PTFE	200

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