

HPLC Sample Preparation Catalogue





Contents

Around the world Whatman is well known for filtration products that meet the highest quality standards. In continental Europe the brand Schleicher & Schuell guaranteed you excellent product performance. With the integration of Schleicher & Schuell we can now offer you the broadest range of products for sample preparation. Every product in our sample preparation line is held to high standards, and in this catalogue we've collected them all into one convenient resource. Finally, everything needed for sample preparation is all in one place, making it quick and easy to order a wide range of quality products.

From high-volume syringe filters like GD/X or HPLC certified Spartan to innovative syringeless solutions like Mini-UniPrep, every Whatman sample preparation product is designed with productivity in mind. Whatman separations experts are more than happy to work with you to determine which sample preparation solutions will work best, ensuring reliable and efficient research.

This guide is intended to be a convenient resource, allowing quick selection of the necessary materials with the assurance that every purchase will be of guaranteed quality. Whatman is committed to providing the best sample preparation materials available, all with the goal of helping speed research and discovery. ■

GD/X Syringe Filters	3
The Unique HPLC Filter - SPARTAN®	4
Mini-UniPrep™ Syringeless Filters	6
UniPrep® Syringeless Filters	8
UNIFILTER® 96 well Filterplate	9
GV 050/2 – Mobile Phase Filtration	10
Sample Request Form	11

Whatman®

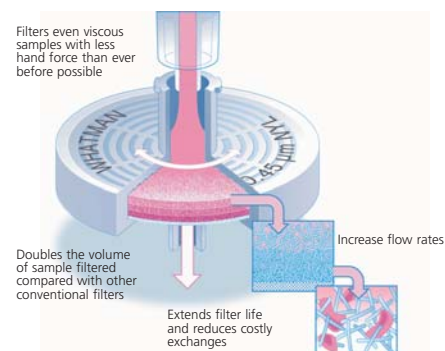
Filter more sample in less time

Whatman GD/X syringe filters are the ideal choice for filtering high-particulate or viscous solutions.

This top-of-the-line disposable syringe filter allows you to filter more of your sample in less time, significantly enhancing laboratory efficiency.

APPLICATION

- Hard-to-filter or viscous samples



GD/X syringe filters



FEATURES AND BENEFITS

- **Increased volume throughput**
Volume of sample filtered can be three to seven times greater than conventional filters.
- **Superior performance**
Four layers of filtration media reduce blockage and mid-operation filter replacement.
- **Less hand force required**
The unique pre-filter layer allows high-particulate samples to be filtered with less hand force, minimising operator fatigue.

TECHNICAL SPECIFICATIONS

Filtration Area	13 mm: 1.3 cm ² 25 mm: 4.6 cm ²
Maximum Pressure	13 mm: 100 psi (6.9 bar) at 20 °C 25 mm: 75 psi (5.2 bar) at 20 °C
Biosafety	All materials pass USP Class VI test for plastics
Materials of Construction	Housing: Polypropylene Filtration Media: As specified
Hold-up Volume	13 mm: Full Housing: ~ 0.5 mL With Purge: ~ 50 µL 25 mm: Full Housing: ~ 1.4 mL With Purge: ~ 250 µL
Connectors	Inlet: Female Luer Lock (FLL) Outlet: Male Slip Luer (MSL)
Flow Direction	Flow from inlet to outlet (FLL to MSL)
Sterilisation	Can be autoclaved at 121 °C for 20 minutes

ORDERING INFORMATION GD/X SYRINGE FILTERS

13 mm Syringe Filters (Non-Sterile)

Pore Size	Membrane	Quantity / Pack	Catalogue Number
0.45 µm	PVDF	150	6872-1304
0.45 µm*	PTFE	150	6874-1304
0.45 µm	Nylon	150	6870-1304

25 mm Syringe Filters (Non-Sterile)

Pore Size	Membrane	Quantity / Pack	Catalogue Number
0.2 µm	Nylon	150	6870-2502
0.2 µm	PVDF	150	6872-2502
0.2 µm*	PTFE	150	6874-2502
0.45 µm	Nylon	150	6870-2504
0.45 µm	PVDF	150	6872-2504
0.45 µm*	PTFE	150	6874-2504
0.45 µm	Nylon	1500	6871-2504
0.45 µm	PVDF	1500	6873-2504
0.45 µm*	PTFE	1500	6875-2504

* hydrophobic
Additional membranes and pore sizes are available

The unique filter for aqueous and organic HPLC samples

SPARTAN is the most versatile syringe filter from Whatman for almost all HPLC samples. The hydrophilic, low protein binding membrane is made of regenerated cellulose (RC) and is both chemically resistant and free of interfering extractables. The housing is made of HPLC grade polypropylene to ensure the highest possible performance.

SPARTAN is available with 30 mm diameter and a large surface area for sample volumes > 5 mL and with 13 mm diameter for samples < 5 mL.

FEATURES AND BENEFITS

- **Universal**
No need for a separate hydrophobic filter like PTFE. Even organic samples can be filtered with SPARTAN due to the excellent compatibility of the RC membrane.
- **Batch certificate**
Offering unrivalled purity, each batch of SPARTAN is tested with acetonitrile, methanol and water at wavelength of 210 and 254 nm for UV-absorbing extractables. This data is then documented and available to download at www.whatman.com/hplc-certificate.
- **Convenience on the bench**
SPARTAN is supplied in a reusable box that ensures product integrity from the first to the last filter. The easy to open and close box is ideal for all kinds of HPLC accessories.

SPARTAN

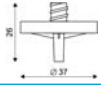
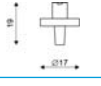
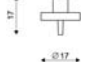


APPLICATION

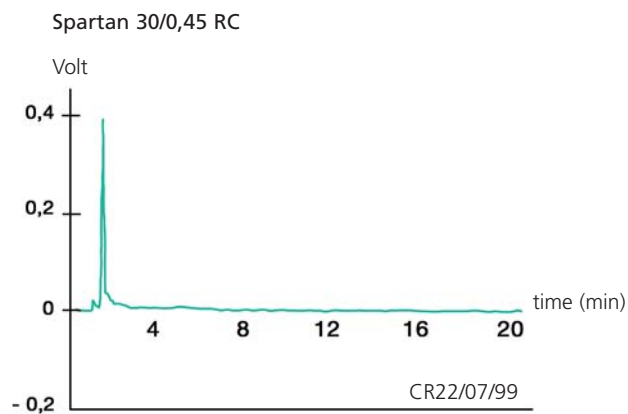
- HPLC sample preparation of easy to filter samples.



TECHNICAL SPECIFICATIONS

Type dia. mm	Max. operating pressure kPa/bar	Max. operating temperature °C	Effective filter area cm ²	Hold-up volume after air purging µl	Inlet	Outlet	
30	700/7	60	5.7	< 50	Luer-Lock-inner cone (female)	Luer outer cone (male)	
13	700/7	60	0.75	<10	Luer-Lock-inner cone (female)	Luer outer cone (male)	
13	700/7	60	0.75	<10	Luer-Lock-inner cone (female)	Mini-Tip	









Column	Agilent, Eclipse XDB-C8 5 µm, 150 x 4.6 mm ID
Injection volume	50 µL
Mobile phase	acetonitrile/water; 35/65
Flow rate	1 mL/min
Detector	254 nm








SPARTAN 13 with Mini-Tip is ideal for narrow vials

ORDERING INFORMATION SPARTAN SYRINGE FILTERS

13 mm Syringe Filters (Non-Sterile)

	Pore size	Connection* in/out	Quantity/ Pack	Catalogue Number
	0.2 µm	LLF/Mini-Tip	100	10 463 040
	0.2 µm	LLF/Mini-Tip	500	10 463 042
	0.2 µm	LLF/LM	100	10 463 100
	0.2 µm	LLF/LM	500	10 463 102
	0.45 µm	LLF/Mini-Tip	100	10 463 030
	0.45 µm	LLF/Mini-Tip	500	10 463 032
	0.45 µm	LLF/LM	100	10 463 110
	0.45 µm	LLF/LM	500	10 463 112

30 mm Syringe Filters (Non-Sterile)

	Pore size	Connection* in/out	Quantity/ Pack	Catalogue Number
	0.2 µm	LLF/LM	100	10 463 060
	0.2 µm	LLF/LM	500	10 463 062
	0.45 µm	LLF/LM	50	10 463 053
	0.45 µm	LLF/LM	100	10 463 050
	0.45 µm	LLF/LM	500	10 463 052

* (LLF: Luer-Lock female; LM: Luer male)

Prepare HPLC samples three times faster

Whatman Mini-UniPrep Syringeless Filters provide a faster, easier way to remove particulates from samples being prepared for HPLC analysis.

These all-in-one filtration and storage vials allow you to prepare samples in one-third of the standard time and cut multiple consumables out of the process. Add up the time savings and reduced costs, and you'll see huge benefits for your laboratory.

Mini-UniPrep can be used with standard robotics on HPLC instruments with sensitive needles, allowing for high throughput and greatly enhanced laboratory productivity.



The Mini-UniPrep filter on the left is shown with fluid in the chamber. On the right, the filter plunger is shown compressed with the sample ready for analysis.

FEATURES AND BENEFITS

- **Ease of use**
All-in-one filtration and storage vial allows you to process samples in one-third the time.
- **Compatible with all major autosamplers**
Allows you to speed processes.
- **Fewer consumables required**
Lowers costs by up to 40 percent.

Mini-UniPrep Syringeless Filters



Simple

Place unfiltered sample in chamber.



Innovative

Compress filter plunger into sample chamber.

Clean filtrate fills reservoir from bottom up.



Convenient

The Mini-UniPrep vial shape fits easily into autosamplers.



Automation-Ready

Available with a slit septum cap, Mini-UniPrep can be used with standard robotics on HPLC instruments.

Slit Septa Mini-UniPrep Syringeless Filter

FEATURES AND BENEFITS

- **Slit septum cap**
Enables Mini-UniPrep use with current robotics on HPLC instruments for high throughput automation.
- **Increases needle longevity**
Eliminates coring problems associated with repeated sampling.
- **Durable yet flexible**
Slit septa cap has been designed especially for instruments with sensitive sampling needs.

APPLICATION

- Use with standard robotics on HPLC instruments with sensitive needles, allowing for higher throughput.

Amber Mini-UniPrep Syringeless Filter

FEATURES AND BENEFITS

- **Amber colourant**
Prevents photo degradation of light-sensitive samples. Same colourant used in pharmaceutical containers designed to meet USP specifications for light resistance.
- **Translucent amber chamber and plunger**
'See-through' clarity to enable visual inspection.

APPLICATION

- Use with any compound that requires protection from oxidation, such as catecholamine or vitamins.

TECHNICAL SPECIFICATIONS

Dimensions	Equivalent in size to 12 mm x 32 mm vials	
Materials of Construction	Housing and Cap:	Polypropylene
	Filtration Media:	As specified
	Septa:	PTFE Membrane and Silicone Rubber
Filtrating Capacity	0.5 mL	
Nominal Force Needed to Compress	Approximately 8 psi (0.6 bar)	
Max. Operating Temperature	120°F (50°C)	



The Amber Mini-UniPrep Syringeless Filter.

ORDERING INFORMATION Mini-UniPrep

Standard Cap – Translucent Housing

Pore Size	Media	Quantity/Pack	Catalogue Number
0.2 µm	PTFE	100	UN203NPEORG
0.45 µm	PVDF	100	UN203NPUAQU
0.45 µm	DpPP	100	UN203NPUDPP
0.45 µm	GMF	100	UN203NPUGMF
0.45 µm	Nylon	100	UN203NPUNYL
0.45 µm	PTFE	100	UN203NPUORG
0.45 µm	PP	100	UN203NPUPP
0.45 µm	PVDF	1000	UN503NPUAQU
0.45 µm	Nylon	1000	UN503NPUNYL
0.45 µm	PTFE	1000	UN503NPUORG
0.45 µm	PP	1000	UN503NPUPP

Slit Septa Cap – Translucent Housing

Pore Size	Media	Quantity/Pack	Catalogue Number
0.2 µm	PVDF	100	US203NPEAQU
0.2 µm	Nylon	100	US203NPENYL
0.2 µm	PTFE	100	US203NPEORG
0.45 µm	Nylon	100	US203NPUNYL
0.45 µm	PTFE	100	US203NPUORG

Standard Cap – Amber Housing

Pore Size	Media	Quantity/Pack	Catalogue Number
0.2 µm	Nylon	100	UN203APENYL
0.45 µm	PVDF	100	UN203APUAQU
0.45 µm	PTFE	100	UN203APUORG

Additional membranes and pore sizes are available.

Filtration of difficult samples made easy

UniPrep Syringeless Filters are pre-assembled filtration devices for the filtration and storage of laboratory samples. These devices are quick and easy to use and feature a plunger, filter and vial in one unit.

The design incorporates a prefilter and a membrane into the tip of the plunger. When the filter plunger is pressed through the liquid placed in the test tube, positive pressure forces the filtrate up into the reservoir of the filter-plunger.

In manual operation, the filter-plunger, after the tip comes in contact with the liquid, is slowly pushed into the test tube until it stops at the bottom. The UniPrep is emptied either by decanting into a sample or autosampler vial or by drawing the filtered sample into a syringe for manual injection into an instrument.

FEATURES AND BENEFITS

- Integral storage vial saves time and minimises laboratory waste
- Built-in prefilters means even difficult samples are quick and easy to prepare

APPLICATION

- HPLC sample preparation of difficult-to-filter samples



TECHNICAL SPECIFICATIONS - UniPrep

Housing	Polypropylene
Filtration Area	0.3 cm ²
Capacity	1 - 5 mL
Hold-Up Volume	50 µL

UniPrep Syringeless Filters

ORDERING INFORMATION UNIPREP

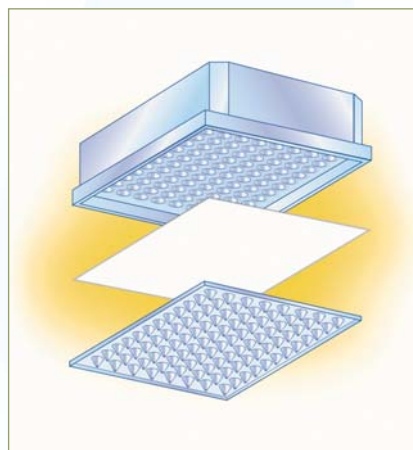
Membrane	Pore Size	Quantity/ Pack	Catalogue Number
PTFE	0.2 µm	50	UN113EORG
PTFE	0.45 µm	50	UN113UORG
Nylon	0.45 µm	50	UN113UNYL
GMF	0.45 µm (retention rating)	50	UN113UGMF
PVDF	0.2 µm	50	UN113EAQU
PVDF	0.45 µm	50	UN113UAQU
Nylon	0.2 µm	50	UN113ENYL

Reliable high-throughput sample preparation

The Whatman **UNIFILTER** micro plates with 96 filter-bottom wells are convenient and ready to use. The glass-filled polypropylene construction of the 2 mL UNIFILTER micro plate enables chemical and heat-resistant operation. The unique drip director design of Whatman UNIFILTER micro plates ensures precise collection of the filtrate to allow for further processing and analysis.

Whatman pierceable capmats can protect samples and improve productivity. Designed to provide a secure positive seal for each individual well, these high quality, reusable closures are produced using chemically resistant biosafe silicone rubber which is stable over a broad range of temperatures.

The filtration is performed simultaneously by using a vacuum pump together with the UniVac 3 collection manifold.



FEATURES AND BENEFITS

- Automation friendly design. Footprint and geometry allow automatic handling of the plates.
- No crosstalk. Unique integral filter design prevents well-to-well cross contamination.
- No sample contamination. The housing is made of HPLC grade polypropylene to prevent elution of additives.

APPLICATION

- HPLC sample preparation

ORDERING INFORMATION UNIFILTER

	Material	Drip Director	Filter Media	Quantity/ Case	Catalogue Number
UNIFILTER Microplate	Glass Filled Polypropylene	Long	0.45 hydrophilic PVDF	25	7700-7206
UNIPLATE Collection Plate	Natural Polypropylene	–	–	25	7701-5200
Capmat, square format	Silicone	–	–	50	7704-0104
UniVac 3	Teflon coated aluminum	–	–	1	7705-0102
UniVac 3	Solid Teflon	–	–	1	7705-0106
UniVac 3	Acrylic	–	–	1	7705-0107

UNIFILTER



UNIFILTER microplate



Capmat sealing mat



UniVac 3 collection manifold

Clear signals and reduced downtime due to mobile phase clean-up

Filtration of the mobile phase removes even fine particles and degasses the solvent simultaneously. The formation of spurious peaks within the detector due to solvent out gassing at the low pressure end of the chromatograph is prevented.

The solvent filtration kit **GV 050/2** consists of everything you need to filter the solvents:

- 250 mL glass funnel
- tapered funnel base, tapered top, clamp
- 1000 mL Erlenmeyer flask

Insert a 47 or 50 mm membrane and connect the GV 050/2 via tubing with a vacuum source. That's all you need to successfully filter and degas the mobile phase.



GV 050/2

FEATURES AND BENEFITS

- **Clear signals, reduced downtime**
No more pump downtime caused by air locks and particulates in check valves.
- **Resistant glass construction**
No contact with plastic parts guarantees filtration without extraction of plasticiser that might cause false signals.
- **Universal**
No need for a separate hydrophobic filter like PTFE. Even organic samples can be filtered due to the excellent compatibility of the RC membrane.

APPLICATION

- Mobile phase filtration and degassing



GV 050/2

ORDERING INFORMATION SOLVENT FILTRATION KIT GV 050/2

Funnel volume	Reservoir volume	Catalogue Number
250 mL	1,000 mL	10 442 200
Membrane type	Material	Catalogue Number
RC 55	Regenerated Cellulose	10 410 214

Fax Response Form

Please send me samples free of charge/ a quotation for the following products:

Sample	Quotation	Annual demand	Product	Catalogue Number
<input type="checkbox"/>	<input type="checkbox"/>	GD/X Syringe Filters	<input type="text"/>
<input type="checkbox"/>	<input type="checkbox"/>	SPARTAN® Syringe Filters	<input type="text"/>
<input type="checkbox"/>	<input type="checkbox"/>	Mini-UniPrep® Syringeless Filters	<input type="text"/>
<input type="checkbox"/>	<input type="checkbox"/>	UniPrep® Syringeless Filters	<input type="text"/>
<input type="checkbox"/>	<input type="checkbox"/>	UNIFILTER™ 96 well Filterplate	<input type="text"/>
<input type="checkbox"/>	<input type="checkbox"/>	RC 55 Membrane for Mobile Phase Filtration	<input type="text"/>

- Company:
- Department:
- Contact:
- E-mail:
- Street:
- City:
- Country:
- Phone:
- Fax:

Please copy this page and send the form to:

Germany **+49 (0) 5561 791 591** or UK **+44 (0) 1622 677 011**

Whatman Quality

Whatman is a global leader in separations technology and is known in the scientific community for providing innovative Life Science products and solutions. Our instinct for simplification accelerates the rate of discovery, reduces costs and saves time. For more information, visit www.whatman.com.

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