



Syringe Filters

Whatman GD/X Syringe Filters

The Whatman GD/X range is specifically designed for high particulate-loaded samples. Constructed of a pigment-free polypropylene housing with a prefiltration stack of Whatman GMF 150 (graded density) and GF/F glass microfiber media, these filters allow you to filter even the most difficult samples with less hand pressure. Whatman GD/X Syringe Filters can process three to seven times more sample volume than a syringe filter containing a single filtration layer.



Whatman GD/X Syringe Filters

GMF 150 and GF/F are produced from 100% borosilicate glass microfiber. The graded density GMF 150 filtration medium has a coarse top layer meshed with a fine bottom layer that retains particles to 1.0 μm . A GF/F filter then retains particles down to 0.7 μm . The prefilter stack ends with a final membrane filter.

Whatman GD/X filter construction facilitates exceptional loading capacity with fast flow rates.

This multilayer construction prevents the premature build up of back pressure typically associated with single filtration layer syringe filters.

Features

- 13 mm and 25 mm diameter syringe filters
- 13 mm filters are recommended for samples up to 10 ml, and 25 mm filters for samples greater than 10 ml (however, the volume of sample that can be filtered through each filter depends on the characteristics of the sample)
- Sterile options
- Pigment-free polypropylene housing
- Prefiltration stack of Whatman GMF 150 (graded density) and GF/F glass microfiber media

Benefits

- Requires less hand pressure, even with difficult samples
- Processes three to seven times more sample volume

Applications

Whatman GD/X Syringe Filters are well suited for heavily particulate-laden samples found in:

- Dissolution testing
- Content uniformity
- Concentration analysis
- Food analysis
- Environmental samples
- Composite assay

Please turn to page 12 for ordering information

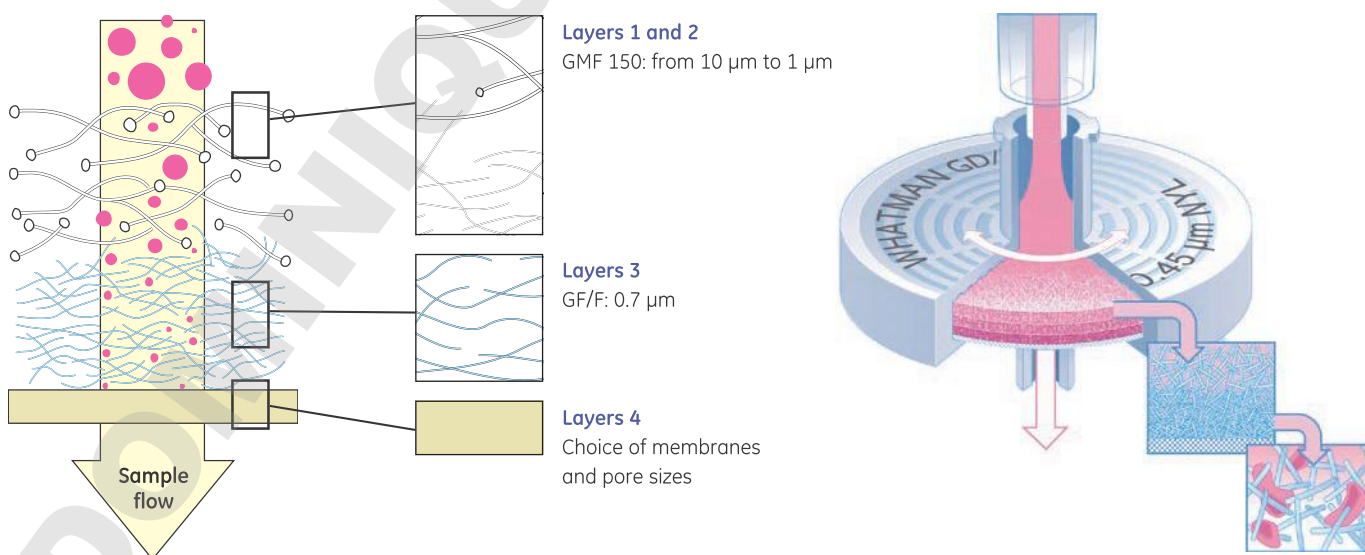


Typical data

Whatman GD/X Syringe Filters

Membrane	GD/X 13 mm	GD/X 25 mm
Housing	Polypropylene (pigment-free)	Polypropylene (pigment-free)
Filtration area	1.3 cm ²	4.6 cm ²
Maximum pressure	100 psi (6.9 bar)	75 psi (5.2 bar)
Volume "hold-up" full housing with air purge	0.5 ml 50 µl (approx)	1.4 ml 250 µl (approx)
Dimensions	21.6 × 29.8 mm	20.8 × 29.8 mm
Weight	3 g (approx)	3 g (approx)
Flow direction	Flow should enter from the inlet	Flow should enter from the inlet
Inlet connection	Female Luer lock	Female Luer lock
Outlet connection	Male Luer	Male Luer
Sterilization*	Autoclave at 121°C at 15 psi for 20 min	Autoclave at 121°C at 15 psi for 20 min
Glass microfiber prefiltration media	100% borosilicate GMF 150 10 µm: 1 µm GF/F 0.7 µm	100% borosilicate GMF 150 10 µm: 1 µm GF/F 0.7 µm

* Applies to nonsterile filters only. Do not autoclave sterile GD/X filters.



Whatman GD/X Syringe filters contain several filtration layers that substantially reduce blockage and increase volume throughput.

Ordering information

Whatman GD/X Syringe Filters

Membrane*	Pore size (µm)	Diameter (mm)	Nonsterile		Sterile	
			150/pack	1500/pack	50/pack	500/pack
Nylon high charge (positive)	0.2	25	6869-2502			
Nylon high charge (positive)	0.45	25	6869-2504			
Nylon	0.2	13	6870-1302	6871-1302		
Nylon	0.2	25	6870-2502	6871-2502		
Nylon	0.45	13	6870-1304	6871-1304		
Nylon	0.45	25	6870-2504	6871-2504		
Nylon	5	25	6870-2550	6871-2550		
PVDF	0.2	13	6872-1302			
PVDF	0.2	25	6872-2502	6873-2502	6900-2502	
PVDF	0.45	13	6872-1304	6873-1304		
PVDF	0.45	25	6872-2504	6873-2504	6900-2504	
PTFE	0.2	13	6874-1302	6875-1302		
PTFE	0.2	25	6874-2502	6875-2502		
PTFE	0.45	13	6874-1304	6875-1304		
PTFE	0.45	25	6874-2504	6875-2504		
PES	0.2	13	6876-1302			
PES	0.2	25	6876-2502	6905-2502	6896-2502	6897-2502
PES	0.45	13	6876-1304			
PES	0.45	25	6876-2504	6905-2504	6896-2504	6897-2504
PP	0.2	13	6878-1302			
PP	0.2	25	6878-2502			
RC	0.2	25	6887-2502			
RC	0.45	25	6882-2504	6883-2504		
CA	0.2	13	6880-1302			
CA	0.2	25	6880-2502		6901-2502	
CA	0.45	13	6880-1304			
CA	0.45	25	6880-2504		6901-2504	
GF/A [†]	1.6 [†]	13	6882-1316			
GF/A [†]	1.6 [†]	25	6882-2516	6883-2516		
GF/B [‡]	1 [†]	13	6884-1310			
GF/B [‡]	1 [†]	25	6884-2510			
GF/C [‡]	1.2 [†]	13	6883-1312			
GF/C [‡]	1.2 [†]	25	6886-2512			
GF/D [‡]	2.7 [†]	13	6888-1327			
GF/D [‡]	2.7 [†]	25	6888-2527			
GF/F [‡]	0.7 [†]	13	6890-1307			
GF/F [‡]	0.7 [†]	25	6890-2507	6891-2507		
GF/F [‡]	0.45 [†]	13	6894-1304			
934-AH [‡]	1.5 [†]	25	6892-2515			
GMF [†]	0.45 [†]	25	6894-2504	6895-2504	6902-2504	

* PP = Polypropylene; CA = Cellulose acetate; PES = Polyethersulfone; GF = Glass fiber; PVDF = Polyvinylidene difluoride; GMF = Glass microfiber; PTFE = Polytetrafluoroethylene

[†] Glass microfiber particle retention rating

[‡] Contains GMF 150 without the GF/F prefilter

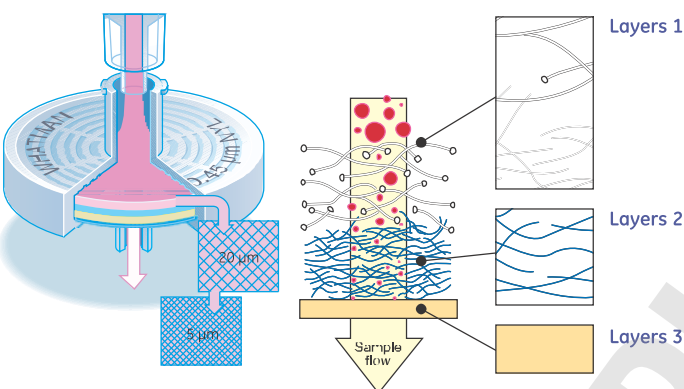
GD/XP Syringe Filters

Whatman GD/XP disposable syringe filters are designed for use with samples that require inorganic ion analysis, as levels of ion extractables are minimized. They are also an alternative choice for users requiring a filter that exhibits extremely low protein binding characteristics. GD/XP Syringe Filters contain a two layer prefilter stack composed of 20 µm and 5 µm polypropylene filters.

The last stage of filtration is a choice of membrane, which is positioned below the prefilter stack.

Applications

- HPLC sample preparation
- Trace metal analysis



GD/XP Syringe Filters contain 3 filtration layers which substantially reduce blockage and increase volume throughput. Layer 1 is a 20 µm polypropylene filter; layer 2 is a 5 µm polypropylene filter; layer 3 is the membrane filter, such as nylon, PVDF, PTFE, etc., which filters down to 0.45 µm.



GD/XP Syringe Filters

Typical data GD/XP Syringe Filters

GD/XP 25 mm

Housing	Polypropylene (pigment-free)
Filtration area	4.6 cm ²
Maximum pressure	75 psi (5.2 bar)
Volume 'hold-up' full housing	1.4 ml with air purge 250 µl (approx)
Dimensions	20.8 × 30.0 mm
Weight	3 g (approx)
Flow direction	Flow should enter from the inlet
Inlet connection	Female Luer lock
Outlet connection	Male Luer
Sterilization*	Autoclave at 121°C at 15 psi for 20 min
Prefiltration media	PP 20 µm; 5 µm

* Not recommended for nylon.

Ordering information

GD/XP Syringe Filters

Product code	Membrane*	Pore size (µm)	Diameter (mm)	Hydrophilic	Solvent resistance	Quantity/pack
6970-2504	Nylon	0.45	25	Yes	Good	150
6971-2504	Nylon	0.45	25	Yes	Good	1500
6972-2504	PVDF	0.45	25	Yes	Good	150
6973-2504	PVDF	0.45	25	Yes	Good	1500
6974-2504	PTFE	0.45	25	No	Very good	150
6978-2504	PP	0.45	25	No	Good	150
6993-2504	DpPP	0.45	25	No	Good	1500
6992-2504	DpPP	0.45	25	No	Good	150
6994-2504	PES	0.45	25	Yes	Poor	150
6995-2504	PES	0.45	25	Yes	Poor	1500

* PP = Polypropylene; PES = Polyethersulfone; PVDF = Polyvinylidene difluoride; PTFE = Polytetrafluoroethylene; DpPP = Polypropylene depth filter