

Filtration Hardware/Accessories

3-Piece Filter Funnel

The increased use of high efficiency glass microfiber filters in modern laboratories has created a demand for simple and effective filter-holding systems. Whatman 3-Piece Filter Funnels have been designed to complement the range of Whatman fine particle retention, rapid flow rate glass microfiber filters.

Functional Design

3-Piece Construction

The funnel is quickly dismantled and ready for the insertion of a new filter. The glass sealing flanges of the funnel and reservoir are ground flat to ensure a good filter seal.

Positive Filter Clamping

All retained solids are deposited within the filter circle. The edge clamping prevents peripheral loss and possible passage of solution around, rather than through, the filter circle.

Simple to Clean

The parts can be quickly and efficiently cleaned because of the simplicity of design.



A Choice of Three Plates

For quick and easy filtration, Whatman 3-Piece Filter Funnels are available with a choice of three plates. They also come in several sizes to match your needs.

Acrylic Plate

Supplied as standard

Suitable for filtration of most aqueous solutions. Maximum working temperature 65°C.

Polypropylene Plate Optional

Recommended for most acids (except concentrated nitric acid and fuming sulfuric acid) at room temperatures. Suitable also for most alcohols, glycols, ethers and ketones. Maximum working temperature 100°C.

PTFE Plate Optional

For virtually all common acids, alkalis and solvents at temperatures up to 100°C. Maximum working temperature 200°C.

Ordering Information

Filter Funnels						
Dimensions (cm)	Catalog Number	Reservoir (mL)	Effective Filtration Diameter (cm)	Effective Filtration Area (cm ²)	Filter Support Plate Diameter (cm)	Filter Funnel Height (cm)
2.5	1950-002	16	1.6	2.0	3.0	13.6
4.7	1950-004	36	3.2	8.0	4.7	12.1
7.0	1950-007	115	5.0	19.6	7.0	15.9
7.0*	1950-017	210	5.0	19.6	7.0	20.8
9.0	1950-009	200	7.0	38.5	9.0	17.9
12.5	1950-012	530	9.2	66.5	12.5	22.0

* Large reservoir.

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Ordering Information continued

Filter Funnels			
	Catalog Number		
	Optional Plates		Replacement Parts
Dimensions (cm)	PTFE Plate	Polypropylene Plate	Reservoirs
4.7	1950-114	1950-104	—
7.0	1950-117	1950-107	1950-207*, 1950-217*
9.0	1950-119	1950-109	1950-209

* Large reservoir.

Membrane Filter Accessories

Whatman offers a choice of holders for use with membrane filters.

Vacuum Type Glass Holders

Produced from borosilicate glass and available with a choice of support screen. Suitable for aqueous and organic solvent filtration. The funnel seal ensures that the sample does not bypass the membrane and that particulates are retained on the surface of the membrane.

The sintered glass support is recommended for filtration and biological analysis. The 304 stainless steel support screen is suitable for use with proteinaceous solutions.



Syringe Filter Type Membrane Filter Holders

Available in stainless steel and polypropylene with luer fittings for use with a standard syringe. The holders are designed for the quick and easy clarification, sterilization and removal of particulates from small volume samples, typically for HPLC applications.

The holders contain PTFE gaskets and O-rings and allow the membrane to be autoclaved in place without the filter sticking to the holder.

Polyester Drain Discs

The disc is binder-free and has a thickness of 100 µm. It is recommended for use between membrane layers in serial filtration applications and also for use as membrane support with Nuclepore polycarbonate membranes

for improved flow rate and throughput.

Applications

- General laboratory microfiltration
- Quality control and sterility testing
- Removal of particulates from HPLC solvents
- Tissue culture media filtration

Typical Data

Filter Diameter (mm) Membrane	Membrane Holder Filter Systems—Glass	Reservoir Volume (mL)	Filter Surface Area (cm ²)	Prefilter Diameter (mm)
25	FG 25	25	2.1	16
25	FG 25R	50	2.1	13
25	FG 25S	25	2.1	16
47	FG 47	300	9.6	35
47	FG 47S	300	9.6	35
90	FG 90	1000	38.5	70

Ordering Information

Membrane Accessories			
Diameter (mm)	Description	Catalog Number	Quantity/Pack
Membrane Filter Holders			
25	Glass Support 50 mL—FG 25R Sintered Glass	1960-032	1
25	Glass Support 25 mL—FG 25 Sintered Glass	1960-002	1
25	Stainless Steel Support 25 mL FG 25S 304 Stainless Steel 100 Mesh Screen	1960-052	1
47	Glass Support 300 mL—FG 47 Sintered Glass	1960-004	1
47	Stainless Steel Support 300 mL FG 47S 304 Stainless Steel 100 Mesh Screen	1960-054	1
90	Glass Support 1000 mL—FG 90 Sintered Glass	1960-009	1
Nuclepore Accessories			
10	Polyester Drain Disc	230300	100
22	Polyester Drain Disc	230500	100
25	Polyester Drain Disc	230600	100
37	Polyester Drain Disc	230800	100
47	Polyester Drain Disc	231100	100

Note: 25 mm holders have No. 5 stopper, fitting 125 mL flasks; 47 mm and 90 mm holders have No. 8 stoppers, fitting standard manifolds and 1 L flasks.

Syringe Type Holders S/S

Luer lock fittings connect to a standard syringe and offer convenience and ease of use for clarification, sterilization and removal of particulates from small volumes of liquid (e.g., HPLC samples and solvents). PTFE gaskets and O-ring permit autoclaving of the membrane in place without the filter sticking to the holder.



Ordering Information

Syringe Type Holders S/S				
Filter Diameter (mm)	Description	Catalog Number	Model	Prefilter Diameter (mm)
13	S/S, female luer inlet; male luer nozzle outlet	1980-001	SH13	10
25	S/S, female luer inlet; male luer nozzle outlet	1980-002	SH25	22

Hardware/Replacement Parts

Whatman offers both stoppers and glass reservoirs.

Ordering Information

Hardware/Replacement Parts		
Catalog Number	Description	Quantity/Pack
1961-054	Glass reservoir for FG47 (300 mL)	1

Plastic Filtration Holders

Pop-Top™ and Swin-Lok™ Plastic Filter Holders

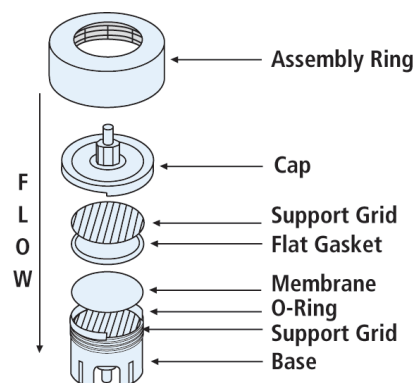
Features and Benefits

- Designed for microfiltration and ultra cleaning of small volumes of liquids using positive pressure
- All three holders will accommodate Nuclepore track-etched and cast membranes
- Syringe compatible



Typical Data

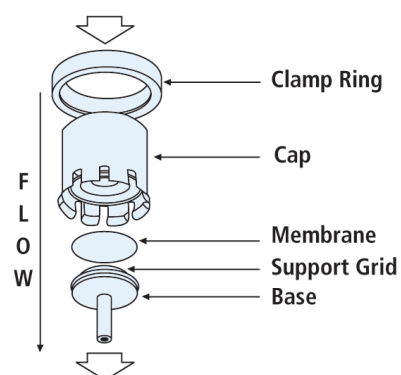
Materials	13 mm Pop-Top	25 mm Swin-Lok	47 mm Swin-Lok
Holder	Polycarbonate	Polypropylene	Polycarbonate
Maximum Operating Temperature and Pressure	38°C (100°F) at 50 psi (3.5 bar)		
Sterilization	121°C (250°F) for 15 minutes		
Size (cm)	2.7 OD x 2.7 H	3.5 OD x 3.7 H	6.0 OD x 6.5 H
Membrane Size (mm)	13	25	47
Prefilter Size (mm)	10	22	42
Filtration Area (cm ²)	0.8	3.9	11.3
Connection			
Cap	Male luer slip-fit	Female luer-lok	Female luer slip-fit with Male 1/4" NPT and 1/4" Tubing (multi purpose)
Base	Female luer slip-fit	Male luer slip-fit	



Plastic Filtration Holder, Swin-Lok
Catalog Number 420200/420400

Ordering Information

Plastic Filtration Holders			
Catalog Number	Description	Diameter (mm)	Quantity/Pack
420100	Pop-Top	13	10
420200	Swin-Lok Holder	25	10
420400	Swin-Lok Holder	47	10



Plastic Filtration Holder, 13 mm
Pop-Top, Catalog Number 420100

Polyester Drain Discs

For use with membrane hardware where extra support is needed. The Polyester Drain Disc provides a flat surface to eliminate filter tearing or rupturing. It is also used as a separator between filters when serial stacks are used. These chemically inert supports are available in a variety of diameters for use in a range of devices.

Features and Benefits

- Function as membrane supports
- Often used in serial filtration

Ordering Information

Polyester Drain Discs		
Diameter (mm)	Catalog Number	Quantity/Pack
10	230300	100
22	230500	100
25	230600	100
37	230800	100
47	231100	100

Membrane Prefilters

The unique properties of borosilicate glass microfibers enable Whatman to manufacture filters with high loading capacity and retention of very fine particulates.

The life of a membrane filter can be extended many times by placing a prefilter upstream of the membrane. The total particulate load challenging the membrane is considerably reduced thus allowing the membrane to operate efficiently.

Multigrade GMF 150

Used as a prefilter, the Multigrade GMF 150 nearly doubles the volume of sample filtered compared to a single density prefilter. Compared to an unprotected membrane, the volume of sample filtered is three to seven times greater. Conventional prefilters cannot perform as effectively as the Multigrade GMF 150, because prefilters of a uniform density do not have the loading capacity of the unique gradient density filter technology represented by the Multigrade GMF 150.

Ordering Information

Glass Microfiber				
Prefilter Diameter (mm)	Membrane Diameter (mm)	Catalog Number Grade GF/B (fine)	Catalog Number Grade GF/D (coarse)	Quantity/Pack
10	13	—	1823-010	100
25	25	1821-025	1823-025	100
35	47	—	1823-035	100
37	47	1821-037	—	100
42.5	47	1821-042	1823-042	100
47	47	1821-047	1823-047	100
90	90	1821-090	1823-090	25
125	142	1821-125	1823-125	25
142	142	—	1823-142	25
257	293	—	1823-257	25
GMF 150		Catalog Number 10 µm/1 µm	Catalog Number 10 µm/2 µm	
47	47	1841-047	1842-047	40
90	90	1841-090	1842-090	40