

## Clyde Inline Filter

The most convenient way to filter sterilize and dispense tissue culture media.

- 0.2 µm version typically filter sterilizes 2 liters in one continuous process
- Completely self-contained
- Integral syringe pump provides positive pressure filtration in any location
- Includes flexible tubing and one-way check valve
- Glass microfiber prefilter
- Radiation sterilized and individually packed
- Nonpyrogenic and biosafe

Clyde™ features an asymmetric mixed cellulose ester membrane. Filtration area is 16 cm². Filter housing is acrylic; other materials featured are polypropylene, PVC, and Tygon. Syringe capacity is 20 ml.



Clyde can be used with tissue culture media and aqueous solutions compatible with the cellulose membrane. As Clyde needs no vacuum pump or other power supply, field work applications are also possible.

### Ordering Information – Clyde (Sterile)

Pore Size (µm)	Catalog Number	Quantity/Pack
0.2	6740-5002	5
0.45	6740-5004	5

## Inline Filters

Whatman inline filters feature a high-purity polypropylene housing to maintain sample purity and are available with a choice of filtration media to suit a range of aqueous and organic samples. They utilize the most advanced construction methods and design features. This level of engineering provides for the finest disposable inline filter devices.

### Polydisc Filters

Whatman Polydisc™ 50 mm inline disc filters are designed for larger volume sample filtration in the laboratory, at a pilot plant, or in manufacturing. They are extremely versatile and cost effective. Sample volumes up to 1 liter can be filtered with one device. Polydisc devices can be used in conjunction with a syringe or connected inline via stepped hose barbs.

Polydisc filters feature a high-purity polypropylene housing to maintain sample purity and are available with a choice



of filtration media to suit a range of aqueous and organic samples. The devices are autoclavable and sterile options are available.

Whatman Inline Filter/Degassers (IFD) connect directly into an HPLC line to simultaneously filter and degas the mobile phase as it is being used.

## Polydisc AS

The Polydisc AS (Aqueous Solution) family of 50 mm filter devices features a high throughput polyethersulfone membrane, which has low protein binding and no surfactants, developed for use in the pharmaceutical industry. A glass microfiber prefilter extends the life of the membrane and effectively filters heavily contaminated samples. Each Polydisc AS device has a sterility cap on the outlet and is sealed in its own medical-grade clear blister pack, radiation sterilized, and secured in a protective shelf pack.

### Features and Benefits

- Radiation sterilized. No EtO residuals
- Barbed hose connections fit multiple tubing sizes
- Integrity-testable (bubble point method)
- Lightweight (11.5 g); avoids the collapsing of tubing, which can be caused by heavy filter devices

### Applications

- Tissue culture media
- Reagent preparation
- Particle counting solutions
- Pharmaceutical preparations

## Typical Data – Polydisc AS

Pore Size (µm)*	Prefilter/Media	Water Flow Rate ml/min at 0.7 bar (10 psi)
0.2	GMF/PES	150
0.45	GMF/PES	225
1.0	GMF/Nylon	625

\* Liquid rating. Retention efficiency in gas streams is significantly higher

GMF – Glass Microfiber  
PES – Polyethersulfone  
SLPM – Standard Liters Per Minute

## Ordering Information – Polydisc AS

Pore Size (µm)	Catalog Number	Prefilter/Media	Quantity/Pack
<b>Sterile</b>			
0.2	6724-5002	GMF/PES	10
0.45	6724-5045	GMF/PES	10
1.0	6724-5010	GMF/Nylon	10
<b>Nonsterile</b>			
0.45	6724-5145	GMF/PES	50

Inline connection – Polydisc, AS, TF, SPF accepts 6-10 mm ID hose

## Polydisc TF and ReZist

This device features a PTFE membrane, which is suitable for chemically aggressive solutions, reagents, and organic solvents. This lightweight unit is particularly suitable for protective vents and for inline filtration and isolation applications. The 1 µm device features a polypropylene prefilter for use with heavily contaminated samples.

### Features and Benefits

- Solvent-resistant membrane
- Chemical-resistant housing
- Hydrophobic PTFE membrane
- Autoclavable (multiple times)

- Integrity-testable (bubble point or water breakthrough pressure “in situ” methods)
- Biosafe
- Lightweight (11.5 g for Polydisc and 17.9 g for ReZist); avoids the collapsing of tubing, which can be caused by heavy filter devices

### Applications

- Pharmaceutical: vents and inline applications
- Biotech: sterile vents and exhausts for growth environments, inline sterilization of gases
- Laboratory: clean or sterile gases, filtration of solvents and reagents, drying gases
- Electronics: photoresists, solvents, gases for research



Polydisc TF



ReZist 50 mm

### Typical Data – Polydisc TF

Pore Size (µm)	Integrity Test Data*		Water Breakthrough		Flow Rates* Methanol ml/min at 0.7 bar (10 psi)	Air SLPM at 0.2 bar (3 psi)
	IPA Bubble Point (bar)	(psi)	(bar)	(psi)		
0.1	1.7	25	3.4	50	200	8
0.2	0.9	13	2.1	38	400	16
0.45	0.5	7	1.1	16	700	24
1.0	0.2	3	0.3	13	900	30

\* Typical values

### Ordering Information – Polydisc TF and ReZist

Pore Size (µm)	Media	Catalog Number	Sterile	Quantity/Pack
<b>Polydisc TF</b>				
0.05	PTFE	6720-5005	No	10
0.1	PTFE	6720-5001	No	10
0.2	PTFE	6720-5002	No	10
0.45	PTFE	6720-5045	No	10
1.0	PTFE*	6721-5010	No	10
<b>ReZist Filter 50 mm, Sterile</b>				
0.2	PTFE	10463607	Yes	10
0.2	PTFE	10463609	No	50
0.45	PTFE	10463610**	Yes	10
0.45	PTFE	10463611	No	10
0.45	PTFE	10463612	No	50

\* With PP prefilter

\*\* Product is only available in the U.S.

Inline connection 6-10 mm ID hose

PTFE – Polytetrafluoroethylene

### Polydisc HD

Excellent flow rate characteristics for filtering large volumes to 1 liter of aqueous and solvent samples. Polydisc HD (Heavy Duty) is available in 5 and 10 µm retention ratings.

### Features and Benefits

- All polypropylene unit for aqueous and solvent samples
- Broad solvent compatibility

### Applications

- Large volume sample preparation

## Typical Data – Polydisc HD

Pore Size (µm)*	Air Flow Rate SLPM at 1.0 bar (14.5 psi)	Water Flow Rate ml/min at 1.0 bar (14.5 psi)
5.0	110	1500
10.0	140	2200

\* Liquid rating. Retention efficiency in gas streams is significantly higher

## Ordering Information – Polydisc HD

Pore Size (µm)	Catalog Number	Media	Quantity/Pack
5.0	6728-5050	Polypropylene	10
10.0	6728-5100	Polypropylene	10
5.0	2227	Polypropylene	50
10.0	2228	Polypropylene	50

### Polydisc SPF

Contains a stack of filter media for the prefiltration of serum and other hard-to-filter solutions. The glass microfiber and polyethersulfone membrane filter stack effectively filters the complex particulates found in serum samples.

#### Applications

- Virology, microbiology, and tissue culture laboratories
- Immunoassay methods and diagnostic standards/controls

## Typical Data – Polydisc SPF

Pore Size (µm)*	Air Flow Rate SLPM at 1.0 bar (14.5 psi)	Water Flow Rate ml/min at 1.0 bar (14.5 psi)
1.0	–	500

\* Liquid rating. Retention efficiency in gas streams is significantly higher

## Ordering Information – Polydisc SPF

Pore Size (µm)	Catalog Number	Prefilter/Media	Quantity/Pack
1.0	6724-5000	GMF/GF/Polysulfone	10

Inline connection – Polydisc SPF accepts 6-10 mm ID hose

### Polydisc GW

Polydisc GW (Ground Water) is specifically designed for sample preparation of ground water samples for the analysis of dissolved heavy metals. It is an aqueous filter with low background values for the determination of trace elements (each pack contains a certificate).

It has everything that makes the preparation of aqueous solutions for the analysis of dissolved heavy metals easy: a large filter surface, quartz fiber prefilter, and membrane filter in sandwich arrangement and a high dirt loading capacity. And, of course, it meets all the requirements of regulations such as NEN, EPA.



## Typical Data – Polydisc GW

Housing	Polypropylene
Membrane type	0.45 µm polyamide (nylon)
Prefilter	100% quartz fiber
Filtration diameter	52 mm
Filtration area	20.4 cm <sup>2</sup>
Dead volume	220 µl
Filling volume	540 µl
Maximum pressure	4.5 bar (65 psi)
Connections	Tubing nozzle 6-14 mm
Max. operating temperature	80°C

## Ordering Information – Polydisc GW 50 mm

Pore Size (µm)	Catalog Number	Prefilter/Media	Quantity/Pack
0.45	10463400	Quartz fiber/nylon	20
0.45	10463401	Quartz fiber/nylon	50

*Inline connection – Polydisc GW accepts 6-14 mm ID hose*

## Inline Filter Degasser

Whatman Inline Filter/Degassers (IFD) connect directly into an HPLC line to simultaneously filter and degas the mobile phase as it is being used. The Aqueous IFD provides pure filtration of aqueous based HPLC mobile phases while the Solvent IFD is used with organically based HPLC mobile phases. Specifically, the Aqueous IFD is designed to work with mobile phases containing at least 20% of the aqueous component.

The Aqueous IFD has a 0.2 µm hydrophilic nylon membrane for use with aqueous-based mobile phases. Solvent IFD has a 0.2 µm high-flow polypropylene membrane for mobile phases containing organic solvents. Both devices have a polypropylene housing, the circumference of which is sealed by a security ring, fittings to accommodate 1/16"-1/8" tubing and an air vent on the inlet with luer lock cap to enable priming.

The inline filters work on the principle of "bubble point" – the point of pressure at which gases will pass through a wet membrane. If pressure is maintained below the bubble point, the gas will not pass through the membrane and is trapped by the particular filter device.



Inline Filter Degasser

### Features and Benefits

- Faster than traditional methods of mobile phase preparation – saving time in the laboratory
- Enhanced laboratory safety
- No need to purchase expensive degassing equipment
- Rugged, chemically resistant polypropylene construction
- Air vent on inlet with luer lock cap
- Integrity-testable (bubble point method)

### Applications

- HPLC analysis
- Pharmaceutical research
- Analytical chemistry

### Typical Data – Inline Filters

	Aqueous IFD	Solvent IFD
<i>Bubble point*</i>		
bar	2.9 (a)	0.76 (b)
psi	42 (a)	11.0 (b)
Maximum flow rate**	2.5 ml/min	2.5 ml/min
Filtration area	16 cm <sup>2</sup>	16 cm <sup>2</sup>

\* Typical values determined with (a) water and (b) isopropanol

\*\* For effective gas bubble removal in HPLC

### Ordering Information – Aqueous IFD and Solvent IFD

Diameter	Pore Size (µm)	Catalog Number	Description	Media	Quantity/Pack
50	0.2	6726-5002	Aqueous IFD*	Nylon	10
50	0.2	6726-5002A	Aqueous IFD**	Nylon	10
50	0.2	6725-5002	Solvent IFD*	PP	10
50	0.2	6725-5002A	Solvent IFD**	PP	10
-	-	6726-5000	IFD End Fitting Kit (10 rings and 10 caps)	-	10

\* Standard catalog numbers include O-rings: 1/32"-5/32"; accepts different diameter tubing 0.8-4 mm

\*\* Catalog numbers with suffix "A" are non-o-ring style and accept 1/8" tubing only

PP – Polypropylene