Environmental Water and Air

Pall is one of the world's largest suppliers of membranes and glass fiber filters designed specifically for environmental monitoring and testing. As knowledge about the impact of industrial by-products and the need for monitoring have increased, so has our commitment to developing new methods and products for air, groundwater and surface water analysis. We're proud that our water quality products set industry standards and define methods for testing groundwater, surface water, and drinking water. Pall environmental testing products are referenced by regulatory agencies worldwide for air monitoring and hazardous waste analysis of both organic and inorganic matrices. Proper product selection is critical to the integrity of your analysis. For the most accurate results possible, use the handy application selectors in this section to help you identify the best products for your environmental quality control needs.

Content

Water – Environmental/Drinking/Waste Application Selector

	Page Number	*Cryptosporidium* and *Giardia* Testing	Fecal *Streptococcus* Detection	*Pseudomonas* sp. Detection	Total Bacteria Detection	Total Coliforms/Fecal Coliforms Detection	Total Suspended Solids Detection	Groundwater Sampling
Membranes and Glass Fiber								
Glass fiber filters, type A/E	242						•	
GN-6 Metricel® MCE membrane disc filters, S-pack	213, 248		•	•	•	•		
Metricel Black PES membrane disc filters, S-pack	214		•	•	•	•		
Supor® 200 PES membrane disc filters, S-pack	215		•	•	•	•		
Capsules								
AquaPrep™ 600 groundwater sampling capsules	252							•
AquaPrep groundwater sampling device	252							•
AquaPrep-V groundwater sampling devices	252							•
Envirochek® HV sampling capsules	254	•						
Envirochek sampling capsules	254	•						
GWV high capacity groundwater sampling capsules	253							•
Ampoule Media*								
HPC with TTC indicator broth	216				•			
KF-*Streptococcal* broth	216		•					
M-FC broth	216					•		
M-TGE broth	216				•			
MF-Endo broth	216					•		
Pseudomonas broth	216			•				
Trypticase Soy broth - USP	216				•			
Filter Funnels								
47 mm Magnetic filter funnels	226		•	•	•	•	•	
MicroFunnel™ filter funnels, 100 and 300 mL	218		•	•	•	•		
Sentino™ Magnetic filter funnels	225a		•	•	•	•	•	
Hardware								
Filter funnel manifolds	229		•	•	•	•	•	
Filter funnel manifolds for MicroFunnel filter funnels	228		•	•	•	•	•	
Laboratory shaker	256	•						
Petri dishes	230, 280		•	•	•	•		
Stainless steel forceps	230, 280		•	•	•	•	•	
Vacuum/pressure pumps	279		•	•	•	•	•	

* Culture media listed may or may not meet the requirements of a regulated test method. It is the responsibility of the user to determine applicability in each situation.

Air Monitoring Application Selector

Membranes and Glass Fiber	Page Number	Acidic Dry Deposition	Aggressive Environments/ Aerosol Testing	Asbestos Fibers Detection	Diesel Fuel Testing	Gravimetric Testing	Lead Detection	Nuisance Dust Detection	PM 10 Testing	Polynuclear Aromatic Hydrocarbon Testing	Silica Detection
Emfab™ filters	240		•		•	•					
Fiberfilm™ filters	240		•		•	•					
GLA-5000 PVC membrane disc filters	245					•		•			•
Glass fiber filters, type A/E	242					•			•		
GN-4 Metricel® MCE membrane disc filters	248			•		•	•				•
GN-6 Metricel MCE membrane disc filters	213, 248			•		•					
Metricel polypropylene membrane filters	249							•			
Nylasorb™ nylon membrane disc filters	246	•									
Teflo (PTFE with PMP) membrane disc filters	246				•	•			•		
TF (PTFE) membrane disc filters	246		•			•					
Tissuquartz™ filters, 2500 QAO-UP	240		•			•			•		
Tissuquartz filters, 2500 QAT-UP	240		•			•			•		
Zefluor™ (PTFE) membrane disc filters	246		•		•	•			•	•	
Zylon™ membrane disc filters	246		•			•				•	
Air Monitoring Cassettes											
25 mm air monitoring cassettes	250			•		•	•	•			
37 mm air monitoring cassettes	251			•		•	•	•		•	•
25 mm support pads	250			•		•	•	•		•	•
37 mm support pads	251			•		•	•	•			
Hardware											
13 mm Swinney filter holder, stainless steel	266		•			•					
25 and 47 mm filter holders, stainless steel	261 - 262		•			•					
37 and 47 mm open-face filter holders, aluminum	273	•				•					
47 mm in-line filter holder, aluminum	272		•		•	•					
47 mm in-line filter holder, polycarbonate	269					•					
Analyslide® Petri dish	282	•	•	•	•	•	•	•	•	•	•

Environmental Quality Control

Meeting Global Requirements for Monitoring and Testing

Cryptosporidium and *Giardia* Capture and Recovery

Patented Envirochek® HV sampling capsules are designed for 100% capture of *Cryptosporidium* oocysts and *Giardia* cysts from source or finished water. The protocol is faster, safer, and simpler than other methods and allows for processing of up to eight samples at once using Pall's laboratory shaker.

- Approved by regulatory agencies worldwide for *Cryptosporidium* and *Giardia* monitoring, including U.S. EPA methods 1622 and 1623, United Kingdom DWI standard operating protocols, and ISO/DIS 15553:2006.
- Field-friendly design allows for a lower pressure source than competitive products, and is easier to transport and handle. Each capsule has a unique serial number for traceability.
- Disposable design eliminates false positives from cross-contamination. 1 µm pore size membrane ensures complete capture of the organisms, eliminating false negatives.
- Designed to eliminate human contact with organisms. No filter holder assembly or cleaning is required. Self-contained capsule's filter element does not need to be handled.

Drinking Water Quality Control

Pall has been involved with water quality monitoring for coliforms since Standard Methods adopted the use of Membrane Filtration as an acceptable, and often preferable, method for monitoring drinking water quality. Our mixed cellulose ester GN Metricel® membranes set the standard worldwide for meeting stringent regulations by providing uniform and consistent growth of organisms. In addition to our membranes, Pall offers a variety of accessories to support water quality labs including Petri dishes, prepared microbiological media, and hardware. Pall's unique Magnetic Filter Funnel is used extensively throughout the water quality testing community because of its one-handed operation that simplifies testing and improves aseptic technique.

Envirochek HV sampling capsules set the standards for Cryptosporidium *and* Giardia *testing.*

Groundwater Sampling Capsules

Pall's products for groundwater analysis are cited in methods worldwide and set industry standards for performance. For dissolved metals analysis of groundwater, our disposable groundwater capsules ensure rapid sample filtration with low levels of metals extractables. Our versatile line of groundwater sampling products ensures a good fit with your sampling situation, regardless of volume or particulate level.

Air Monitoring Products

You'll find Pall environmental testing products referenced and recommended by regulatory agencies worldwide for air monitoring. Pall's time-tested filtration membranes, glass fiber media, and convenient air monitoring devices are reliable allies in the pursuit of contamination control.

Groundwater Monitoring Products Reduce Contamination

Protecting natural resources is critical to governments around the world. Groundwater quality is of particular importance because of its use as a source for drinking water. Heavy metals contamination of groundwater is a concern around landfills, industrial plants, and previously contaminated sites. Monitoring for heavy metals around landfills and industrial plants ensures that unwanted metals are not leaching into surrounding groundwater where they can be distributed farther and more quickly from the source of contamination. Monitoring these sites is maintained to ensure that remediation of the sites is progressing and effective at reducing the spread of contamination. Pall's versatile line of groundwater sampling products ensures a good fit with your sampling situation, regardless of volume or particulate level. Our capsule products are provided with a metals certification to ensure the product is not contributing metals to the sample before analysis. If you prefer reusable hardware, Pall offers a complete line of filter holders and funnels, as well as trusted membrane and glass fiber filters.

GWV High Capacity Groundwater Sampling Capsules offer five times the filtration area of conventional 142 mm filters.

Pall GWV High Capacity Groundwater Capsules Are Tested to Ensure Minimum Detectable Metals in Their Composition

Element/Ion (Periodic Symbol)	µg/L
Aluminum (Al)	0.2
Antimony (Sb)	0.02
Arsenic (As)	0.2
Barium (Ba)	0.01
Beryllium (Be)	0.04
Bismuth (Bi)	0.04
Boron (B)	2
Bromide (Br^-)	5
Cadmium (Cd)	0.03
Calcium (Ca)	25
Cerium (Ce)	0.01
Cesium (Cs)	0.02
Chloride (Cl^-)	50
Chromium (Cr)	0.03
Cobalt (Co)	0.02
Copper (Cu)	0.5
Dysprosium (Dy)	0.04
Erbium (Er)	0.02
Europium (Eu)	0.02
Fluoride (F^-)	2
Gadolinium (Gd)	0.04
Gallium (Ga)	0.04
Germanium (Ge)	0.05
Gold (Au)	0.05
Hafnium (Hf)	0.03
Holmium (Ho)	0.01
Indium (In)	0.02
Iridium (Ir)	0.06
Iron (Fe)	1
Lanthanum (La)	0.01
Lead (Pb)	0.05
Lithium (Li)	0.03
Lutetium (Lu)	0.01
Magnesium (Mg)	10
Manganese (Mn)	0.03
Mercury (Hg)	0.05
Molybdenum (Mo)	0.05
Neodymium (Nd)	0.02

Element/Ion (Periodic Symbol)	µg/L
Nickel (Ni)	0.5
Niobium (Nb)	0.02
Nitrate (NO_3^-)	10
Nitrite (NO_2^-)	10
Osmium (Os)	0.02
Palladium (Pd)	0.06
Phosphate (PO_4^{3-})	5
Platinum (Pt)	0.08
Potassium (K)	25
Praseodymium (Pr)	0.01
Rhenium (Re)	0.06
Rhodium (Rh)	0.02
Rubidium (Rb)	0.1
Ruthenium (Ru)	0.05
Samarium (Sm)	0.04
Scandium (Sc)	0.2
Selenium (Se)	7
Silicon (Si)	0.5
Silver (Ag)	0.03
Sodium (Na)	25
Strontium (Sr)	0.01
Sulfate (SO_4^{2-})	10
Tantalum (Ta)	0.02
Tellurium (Te)	0.04
Terbium (Tb)	0.02
Thallium (Tl)	0.05
Thorium (Th)	0.02
Thulium (Tm)	0.01
Tin (Sn)	0.2
Titanium (Ti)	0.05
Tungsten (W)	0.2
Uranium (U)	0.02
Vanadium (V)	0.03
Ytterbium (Yb)	0.03
Yttrium (Y)	0.02
Zinc (Zn)	1
Zirconium (Zr)	0.05

Air Monitoring Products Comply With Global Testing Standards

Air quality is a concern worldwide due to its known impact on health issues. Globally, federal regulators set standards to control pollution in the air we breathe. Pall began research on the development and production of filters for air sampling and analysis more than 40 years ago. We are now one of the world's largest suppliers of membranes and glass fiber filters designed specifically for environmental monitoring and testing.

As knowledge about the impact of industrial by-products and the need for monitoring have increased, so has our commitment to supplying products for air analysis. You will find Pall environmental testing products referenced and recommended by regulatory agencies worldwide for air monitoring and hazardous waste analysis of both organic and inorganic matrices.

Application	Membranes	Devices and Accessories
Acid Rain	Nylasorb™ and Zefluor™ Membranes	37 and 47 mm Open-Face Aluminum Filter Holders
Aggressive Environments/ Aerosol Testing	Tissuquartz™, Emfab™, and Fiberfilm™ Membranes	47 mm In-Line Filter Holders
Asbestos/Fibers	GN-6 Metricel® and GN-4 Metricel Membranes	25 and 37 mm Air Monitoring Cassettes, 25 and 37 mm Support Pads, Analyslide® Petri Dish
Diesel Fuel	Emfab and Fiberfilm Membranes	47 mm In-Line Filter Holders
Gravimetric	A/E Glass Fiber, GLA-5000, Zefluor, Emfab, Tissuquartz, and Teflo Membranes	37 mm Air Monitoring Cassettes, 25 mm Open-Face Delrin♦ Holder, 37 and 47 mm Open-Face Aluminum Holders, Analyslide Petri Dish
Lead	GN-4 Metricel Membrane	37 mm Air Monitoring Cassettes, 37 mm Support Pads
Nuisance Dust	GLA-5000 Membrane	37 mm Air Monitoring Cassettes, 37 mm Support Pads
PM 10, PM 2.5	A/E Glass Fiber, Tissuquartz, Teflo, and Zefluor Membranes	Analyslide Petri Dish
Polynuclear Aromatic Hydrocarbon	Zefluor and Zylon™ Membranes	37 mm Air Monitoring Cassettes, 37 mm Support Pads
Silica	GLA-5000 and GN-4 Metricel Membranes	37 mm Air Monitoring Cassettes, 37 mm Support Pads, Analyslide Petri Dish

For more detailed information on how to select the correct filter for the specific NIOSH method you are using, visit our web site, contact your local Pall Life Sciences representative, or call our Technical Services Department.

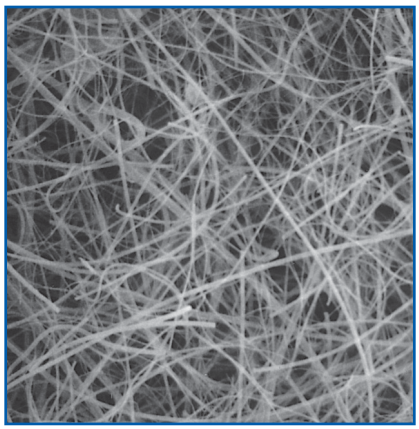
Environmental Water and Air – Online Reference Library

Pall's website offers an extensive collection of product, technical, and application information. This valuable online reference library features hundreds of technical articles, posters, podcasts, application notes, and more that can help you get the most out of your process. To view the following titles online – and many others – click the Literature Library link in the left sidebar when you visit **www.pall.com/lab**.

- Air Analysis Sampling Membrane Selection Guide
- Analysis of Envirochek® Sampling Capsule versus Traditional String Wound Cartridges for Collection and Recovery of *Cryptosporidium*
- *Cryptosporidium* Occurrence in Wastewaters and Control Using UV Disinfection
- Envirochek HV Capsule: Recovering *Cryptosporidium* From High Volume Source and Finished Drinking Water Samples
- Envirochek HV Sampling Capsule Protocol
- Envirochek Sampling Capsule Protocol
- Filter Funnels Selection Guide
- Filter Holders Selection Guide
- Filtration Hardware Selection Guide
- Groundwater Sampling Devices Selection Guide
- Membranes and Devices for Air Analysis Selection Guide
- Methods for the Recovery, Isolation, and Detection of *Cryptosporidium* Oocysts in Wastewaters
- Testing Water for *Cryptosporidium* Podcast

Pallflex® Air Monitoring Filters

Versatile filters uniquely suited for a broad range of air monitoring applications



- Useful for high temperature and hot gas air monitoring applications.
- Ideal for stack sampling and diesel emissions testing.

Applications

Tissuquartz™ Filters

- Heat treated for reduction of trace organics and superior chemical purity.
- High temperature use for analysis of acidic gases and stack sampling aerosols.
- High flow rate and filtration efficiency.
- Ultra-pure soft water processing to reduce residual ion content. (Contact Pall Technical Service for typical values.)

Filberfilm™ Filters

- Economical filter suited for a range of air sampling applications.
- Moisture variations in air or gases during air sampling will not cause chemical reactions on the filter.
- Heat-treated version available for reduction of trace organics.

Emfab™ Filters

- Withstands folding for weighing and transport.
- Every filter flushed with DI water to remove water-soluble residue.
- Low air resistance for use in critical aerosol sampling tests, such as diesel exhaust.

Specifications

Description	Tissuquartz Filters	Emfab Filters*	Fiberfilm Filters
Filter Media	Pure quartz, no binder	Borosilicate glass microfibers reinforced with woven glass cloth and bonded with PTFE	Heat resistant borosilicate glass fiber coated with fluorocarbon (TFE)
Diameter	25 - 142 mm and 8 x 10 in.	12 - 142 mm and 8 x 10 in.	25 - 100 mm and 8 x 10 in.
Typical Thickness	432 µm (17 mils)	178 µm (7 mils)	203 µm (8 mils)
Typical Filter Weight	5.8 mg/cm^2	5.0 mg/cm^2	3.4 mg/cm^2
Typical Water Flow Rate 0.35 bar (35 kPa, 5 psi)	220 mL/min/cm^2	32 mL/min/cm^2	220 mL/min/cm^2
Typical Air Flow Rate -------	73 L/min/cm^2	68 L/min/cm^2	180 L/min/cm^2
Maximum Operating Temperature - Air	1,093 ºC (2,000 ºF)	260 ºC (500 ºF)	315.5 ºC (600 ºF)
Typical Aerosol Retention**	99.90%	99.95%	96.40%
pH in Boiled Water Extract	6.5 - 7.5	–	–

* The TX40HI45 and TX40HI75 are made from the same materials but were developed in conjunction with the U.S. EPA (Method 26) when a need arose to sample the exhaust gases from the stacks at incinerator facilities. These two grades are made with higher levels of the PTFE binder resin than the TX40HI20WW to withstand the corrosive atmosphere. The TX40HI75 has a higher level of binder than the TX40HI45 and both have a higher level than the TX40HI20WW.

** Following ASTM D 2986-95A 0.3 µm (DOP) at 32 L/min/100 cm^2 filter media.

Ordering Information

Tissuquartz™ Filters, 2500 QAT-UP

Part Number	Description	Pkg
7200	25 mm	100/pkg
7201	37 mm	25/pkg
7202	47 mm	25/pkg
7199	54 mm	25/pkg
7191	60 mm	25/pkg
7197	63.5 mm	25/pkg
7196	64 mm	25/pkg
7205	82.6 mm	25/pkg
7190	83 mm	25/pkg
7206	85 mm	25/pkg
7187	87.5 mm	25/pkg
7203	90 mm	25/pkg
7195	100 mm	25/pkg
7207	102 mm	25/pkg
7250	110 mm	25/pkg
7249	115 mm	25/pkg
7208	125 mm	25/pkg
7251	142 mm	25/pkg
7204	8 x 10 in.	25/pkg

Non-Heat-Treated Tissuquartz Filters, 2500 QAO-UP

Part Number	Description	Pkg
7198	37 mm	25/pkg
7194	47 mm	25/pkg
7240	70 mm	25/pkg
7241	90 mm	25/pkg
7193	142 mm	25/pkg

Emfab™ Filters

Part Number	Description	Pkg
7258	TX40HI20WW, 12 mm	100/pkg
7219	TX40HI20WW, 25 mm	100/pkg
7217	TX40HI20WW, 37 mm	100/pkg
7256	TX40HI20WW, 41 mm	100/pkg
7220	TX40HI20WW, 44 mm	100/pkg
7221	TX40HI20WW, 47 mm	100/pkg
7222	TX40HI20WW, 70 mm	100/pkg
7218	TX40HI20WW, 81 mm	100/pkg
7234	TX40HI20WW, 85 mm	100/pkg
7223	TX40HI20WW, 90 mm	100/pkg
7225	TX40HI20WW, 110 mm	100/pkg
7252	TX40HI20WW, 142 mm	100/pkg
7224	TX40HI20WW, 8 x 10 in.	100/pkg
7259	TX40HI45, 25 mm	100/pkg
7262	TX40HI45, 47 mm	100/pkg
7253	TX40HI45, 82.6 mm	100/pkg
7260	TX40HI45, 83 mm	100/pkg
7254	TX40HI45, 110 mm	100/pkg
7263	TX40HI75, 25 mm	100/pkg
7264	TX40HI75, 47 mm	100/pkg
7265	TX40HI75, 82.6 mm	100/pkg
7266	TX40HI75, 110 mm	100/pkg

Fiberfilm™ Filters

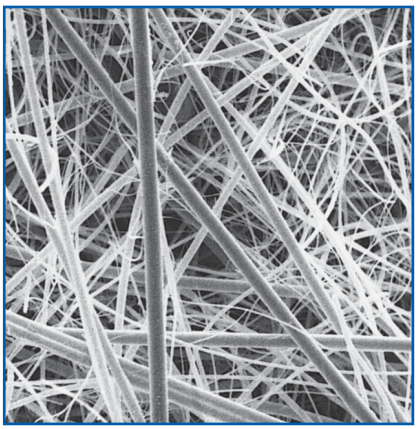
Part Number	Description	Pkg
7210	T60A20, 25 mm	100/pkg
7211	T60A20, 37 mm	50/pkg
7212	T60A20, 47 mm	50/pkg
7216	T60A20, 55 mm	50/pkg
7213	T60A20, 70 mm	50/pkg
7209	T60A20-HT, 70 mm, heat-treated	50/pkg
7214	T60A20, 90 mm	50/pkg
7257	T60A20, 100 mm	50/pkg
7215	T60A20, 8 x 10 in.	50/pkg

Related Products

In-Line Filter Holders . . . . . 268 - 272
Stainless Steel Forceps 230, 280

Glass Fiber Filters

Superior grade filters for a variety of biological and environmental methods



- Type A/E meets the requirements for suspended solids testing, as described in *Standard Methods for the Examination of Water and Wastewater*, current edition.
- Reduces filtration costs and premature clogging when filtering difficult-to-filter or highly contaminated solutions.
- Extends filter life and reduces final filter changes with high capacity prefilters.
- Eliminates sample contamination. Binder-free borosilicate glass fiber has no added extractables.
- Filters a wide range of particulate loads and viscous solutions with a selection of filter thicknesses from which to choose.
- Filters with binder offer excellent wet strength for easy handling and filter integrity.

Applications

- Used in a variety of sample clean-up, prefiltration, and analytical testing applications. Choose between binder-free borosilicate glass for complete purity or glass fiber with acrylic binder for added strength.

Type A/E Glass Fiber

- For testing dissolved and suspended solids in wastewater and gravimetric analysis of air pollutants.
- High flow rates, wet strength, and dirt (solids) holding capacities.

Type A/B Glass Fiber

- High dirt-loading capacity with 2.5 times thicker glass than Type A/C.
- Manufactured of the highest quality borosilicate glass microfibers.

Type A/C Glass Fiber

- For testing dissolved and suspended solids in wastewater.
- Useful for cell harvesting applications.
- Purity eliminates risk of unwanted contaminants leaching into the filtrate.

Type A/D Glass Fiber

- Excellent prefilters for solutions with a heavy load of large-sized particulate that must be removed.
- Large nominal pore size reduces membrane clogging.

Extra Thick Glass Fiber With Binder

- Preferred for prefiltration of viscous biological solutions.
- High particulate-holding capacity makes discs efficient depth filters and allows for filtration of large volumes of solutions.

Metrigard™ Glass Fiber With Binder

- Useful for prolonging membrane filter life in liquid systems that contain substantial amounts of particulate matter.

TCLP Glass Fiber

- Designed to meet requirements for use in U.S. EPA SW-846 Method 1311: Toxic Characteristics Leaching Procedure (TCLP).

Specifications and Selection Chart

Description	Type A/E	Type A/B	Type A/C
Typical Applications	Water solids testing, air monitoring, gravimetric analysis	Diagnostic applications, sample prefiltration	Cell harvesting, prefiltration, solids testing
Filter Media	Borosilicate glass without binder	Borosilicate glass without binder	Borosilicate glass without binder
Pore Size (Nominal)	1 µm	1 µm	1 µm
Typical Thickness	330 µm (13 mils)	660 µm (26 mils)	254 µm (10 mils)
Typical Water Flow Rate mL/min/cm² at 0.3 bar (30 kPa, 5 psi)	250	124	153
Typical Air Flow Rate L/min/cm² at 0.7 bar (70 kPa, 10 psi)	60	24	40
Maximum Operating Temperature	Air - 550 °C (1,022 °F)	Air - 550 °C (1,022 °F)	Air - 550 °C (1,022 °F)
Sterilization	Autoclavable	Autoclavable	Autoclavable
Typical Aerosol Retention*	99.98%	–	–

Description	Type A/D	Extra Thick Discs	Metrigard™ Discs	TCLP
Typical Applications with large-sized particulate	Prefiltration of solutions contaminated samples	Prefiltration of heavily	Prefiltration in systems with high particulate matter	U.S. EPA Method 1311
Filter Media	Borosilicate glass without binder	Glass fiber with acrylic binder**	Ultrafine glass fiber with acrylic binder**	Borosilicate glass without binder***
Pore Size (Nominal)	3 µm	1 µm	0.5 µm	0.7 µm
Typical Thickness	660 µm (26 mils)	1270 µm (50 mils)	330 µm (13 mils)	432 µm (17 mils)
Typical Water Flow Rate mL/min/cm² at 0.3 bar (30 kPa, 5 psi)	649	210	80	–
Typical Air Flow Rate L/min/cm² at 0.7 bar (70 kPa, 10 psi)	139	26	21	–
Maximum Operating Temperature	Air - 550 °C (1,022 °F)	Water - 135 °C (275 °F)	Water - 135 °C (275 °F)	NA
Sterilization	Autoclavable	Autoclavable	Autoclavable	Autoclavable
Typical Aerosol Retention*	–	99.97%	–	–

* Following ASTM D 2986-95A 0.3 µm (DOP) at 32 L/min/100 cm² filter media.
** Binder is 5% of total material.
*** TCLP glass fiber filters are not acid washed.

Ordering Information

Type A/E Glass Fiber Discs and Sheets, 1 µm

Part Number	Description	Pkg
61628	13 mm	500/pkg
61630	25 mm	500/pkg
60097	30 mm	100/pkg
61654	35 mm	100/pkg
61652	37 mm	500/pkg
65475	42.5 mm	100/pkg
61631	47 mm	100/pkg
61632	50 mm	100/pkg
60140	55 mm	100/pkg
60012	57 mm	100/pkg
60150	63 mm	100/pkg
61665	70 mm	100/pkg
61663	76 mm	100/pkg
60010	81 mm	100/pkg
60127	82.5 mm	100/pkg
60118	85 mm	100/pkg
61664	90 mm	100/pkg
61633	102 mm	100/pkg
60115	110 mm	100/pkg
61655	124 mm	100/pkg
65476	125 mm	100/pkg
61669	127 mm	100/pkg
66559	142 mm	25/pkg
61635	142 mm	100/pkg
61675	257 mm	100/pkg
61636	265 mm	100/pkg
66560	293 mm	25/pkg
61637	293 mm	100/pkg
61638	8 x 10 in.	100/pkg

Ordering Information

Type A/B Glass Fiber Discs and Sheets, 1 µm

Part Number	Description	Pkg
66196	13 mm	100/pkg
66198	25 mm	100/pkg
66208	37 mm	100/pkg
66209	47 mm	100/pkg
66210	142 mm	25/pkg
66211	8 x 10 in.	25/pkg

Type A/C Glass Fiber Discs and Sheets, 1 µm

Part Number	Description	Pkg
66213	25 mm	100/pkg
66214	37 mm	100/pkg
66215	47 mm	100/pkg
65529	70 mm	100/pkg
66216	142 mm	25/pkg
66217	8 x 10 in.	25/pkg

Type A/D Glass Fiber Discs and Sheets, 3 µm

Part Number	Description	Pkg
66218	13 mm	100/pkg
66220	25 mm	100/pkg
66222	37 mm	100/pkg
66224	47 mm	100/pkg
66226	142 mm	25/pkg
66227	8 x 10 in.	25/pkg

Glass Fiber Discs With Binder, Extra Thick, 1 µm

Part Number	Description	Pkg
66073	13 mm	100/pkg
66075	25 mm	100/pkg
66078	47 mm	100/pkg
66084	127 mm	50/pkg
66085	142 mm	50/pkg
66086	257 mm	25/pkg
66088	293 mm	25/pkg

Metrigard™ Glass Fiber Discs With Binder, 0.5 µm

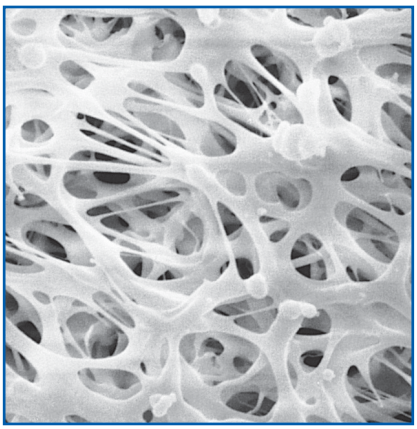
Part Number	Description	Pkg
64798	47 mm	100/pkg
64803	142 mm	100/pkg

TCLP Glass Fiber Filters

Part Number	Description	Pkg
66251	13 mm	100/pkg
66258	47 mm	50/pkg
66256	90 mm	50/pkg
66259	110 mm	50/pkg
60159	115 mm	50/pkg
66257	142 mm	50/pkg
60076	293 mm	25/pkg

GLA-5000 PVC Membrane Disc Filters

Inherently low ash membrane ideally suited for multiple NIOSH analytical methods



- Assures gravimetric stability with low moisture pick-up and low tare weight.
- Low ash. Provides interference-free silica determinations.
- 5 µm pore size meets NIOSH and OSHA requirements.
- 25 and 37 mm sizes are ideal for use in Pall Air Monitoring Cassettes.

Applications

- Excellent membrane choice for sampling airborne metals, silica, and dust.

Specifications

Filter Media
Polyvinyl chloride (PVC)

Pore Size
5 µm

Typical Air Flow Rate
53 L/min/cm^2 at 0.7 bar
(70 kPa, 10 psi)

Maximum Operating Temperature – Water
52 °C (125 °F)

Gravimetric Stability
< 0.5% after 24 hrs at 48% relative humidity at 50 °C (122 °F)

Ash Content
< 1%

Typical Aerosol Retention*
99.94% 0.3 µm (DOP) at
32 L/min/100 cm^2 of filter media

*Following ASTM D 2986-95A

Ordering Information

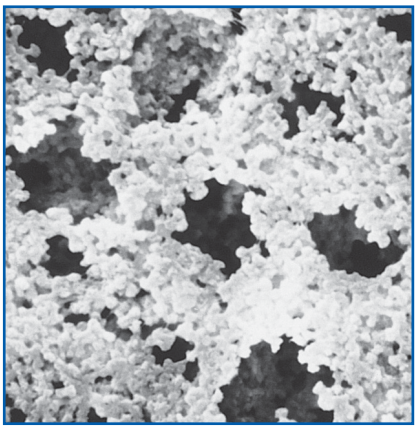
GLA-5000 Membrane Disc Filters, 5 µm

Part Number	Description	Pkg
66466	25 mm	100/pkg
66469	37 mm	100/pkg
66467	37 mm, with support pads	100/pkg
66468	47 mm	100/pkg

Related Products

Nylasorb™ Nylon Membrane Disc Filters

Pure nylon membrane specifically for the requirements of acidic dry deposition (acid rain) measurements



- Selectively adsorbs HNO_3 and SO_2.
- Accurate HNO_3 determinations. Adsorbs extremely low levels of NO, NO_2, and polynuclear aromatic hydrocarbons (PAHs).
- Assures low background levels of NO_3^- and SO_4^{-2}. Each lot tested by ion chromatography.

Applications

- For acidic dry deposition measurements.

Specifications

Filter Media
Nylon

Pore Size
1 µm (nominal)

Typical Thickness
90 µm (3 mils)

Maximum Operating Temperature
180 °C (356 °F)

Maximum NO_3- Background Level
0.025 µg/cm²

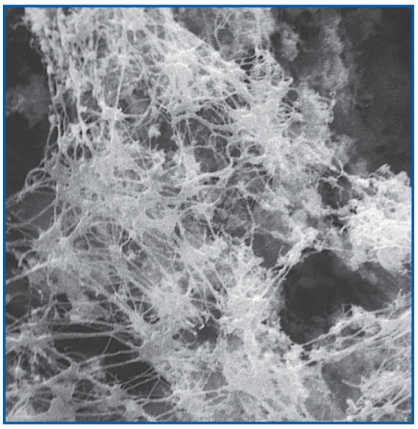
Ordering Information

Nylasorb Membrane Disc Filters, 1 µm

Part Number	Description	Pkg
66509	47 mm	100/pkg
66510	90 mm	50/pkg

PTFE Membrane Disc Filters

Strong, chemically resistant membranes for air monitoring and sampling in aggressive environments



- Low chemical background permits highly sensitive, interference-free determinations.
- Ensures accurate gravimetric determinations with low tare mass.
- Zefluor™ membrane, available in 0.5 µm pore size.
- Ideal for filtration of gas and/or organic solvents.

Applications

- For air monitoring and sampling in aggressive environments.
- Supported membranes offer increased durability for hostile testing environments or acid aerosol monitoring.
- Teflo membrane offers unique PMP support ring for PM 10 dichotomous and other air sampling techniques.
- Ultimate in chemical compatibility for filtering harsh chemicals and HPLC mobile phases that destroy other membrane materials.

NEW PRODUCT

Specifications

Description	Zefluor™ Membrane	Teflo Membrane	Zylon™ Membrane	TF (PTFE) Membrane
Filter Media/Support	PTFE with PTFE support	PTFE with PMP (polymethyl-pentene) support ring	Unsupported PTFE	PTFE on a polypropylene support
Typical Thickness	0.5 µm: 178 µm (7 mils) 1 µm: 165 µm (6.5 mils) 2 and 3 µm: 152 µm (6 mils)	1 µm: 76 µm (3 mils) 2 µm: 46 µm (1.8 mils) 3 µm: 30.4 µm (1.2 mils)	140 µm (5.5 mils)	0.2 µm: 139 µm (5.5 mils) 0.45 and 1 µm: 135 µm (5.3 mils)
Typical Air Flow Rate L/min/cm² at 0.7 bar (70 kPa, 10 psi)	0.5 µm: 1 1 µm: 14.6 2 µm: 25.3 3 µm: 53	1 µm: 17 2 µm: 53 3 µm: 90	5 µm: 13	0.2 µm: 2 0.45 µm: 3 1 µm: 7
Minimum Bubble Point - IPA bar (psi)	Not applicable	Not applicable	Not applicable	0.2 µm: 1.0 (15) 0.45 µm: 0.4 (6) 1 µm: 0.1 (2)
Water Breakthrough bar (psi)	Not applicable	Not applicable	Not applicable	0.2 µm: 2.8 (40) 0.45 µm: 1.1 (16) 1 µm: 1.0 (15)
Typical Aerosol Retention*	0.5, 1, and 2 µm: 99.99% 3 µm: 99.98%	1 and 2 µm: 99.99% 3 µm: 99.79%	Not applicable	Not applicable

*Following ASTM D 2986-95A 0.3 µm (DOP) at 32 L/min/100 cm² filter media.

Ordering Information

Zefluor and Zylon Membrane Disc Filters

Part Number	Description	Pkg
P5PQ025	Zefluor, 0.5 µm, 25 mm	100/pkg
P5PQ047	Zefluor, 0.5 µm, 47 mm	50/pkg
P5PL025	Zefluor, 1 µm, 25 mm	100/pkg
P5PL037	Zefluor, 1 µm, 37 mm, with support pads	50/pkg
P5PL047	Zefluor, 1 µm, 47 mm	50/pkg
P5PL090	Zefluor, 1 µm, 90 mm	50/pkg
P5PL001	Zefluor, 1 µm, 8 x 10 in.	25/pkg
60048	Zefluor, 2 µm, 25 mm	100/pkg
P5PJ037	Zefluor, 2 µm, 37 mm, with support pads	50/pkg
P5PJ047	Zefluor, 2 µm, 47 mm	50/pkg
60224	Zefluor, 2 µm, 70 mm	25/pkg
P5PJ001	Zefluor, 2 µm, 8 x 10 in.	25/pkg
60230	Zefluor, 3 µm, 50 mm	50/pkg
60214	Zefluor, 3 µm, 63 mm	100/pkg
60537	Zefluor, 3 µm, 90 mm	25/pkg
P5PI001	Zefluor, 3 µm, 8 x 10 in.	25/pkg
P4PH037	Zylon, 5 µm, 37 mm, with support pads	50/pkg
P4PH047	Zylon, 5 µm, 47 mm	50/pkg

Teflo Membrane Disc Filters

Part Number	Description	Pkg
R2PL037	1 µm, 37 mm	50/pkg
R2PL047	1 µm, 47 mm	50/pkg
R2PJ037	2 µm, 37 mm	50/pkg

Teflo Membrane Disc Filters

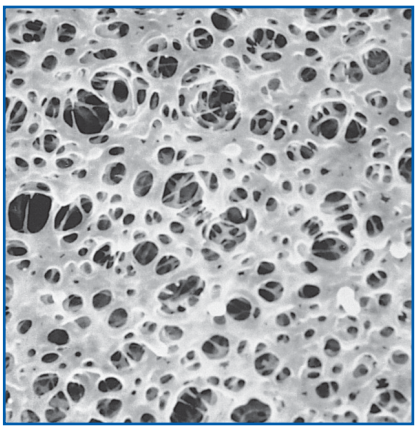
Part Number	Description	Pkg
R2PJ041	2 µm, 41 mm	50/pkg
R2PJ047	2 µm, 47 mm	50/pkg
66695	2 µm, 47 mm	50/pkg
R2PI025	3 µm, 25 mm	50/pkg
60146	3 µm, 47 mm	50/pkg

TF (PTFE) Membrane Disc Filters

Part Number	Description	Pkg
66141	TF 200, 0.2 µm, 13 mm	100/pkg
66142	TF 200, 0.2 µm, 25 mm	100/pkg
66143	TF 200, 0.2 µm, 47 mm	100/pkg
66630	TF 200, 0.2 µm, 50 mm	100/pkg
66145	TF 200, 0.2 µm, 142 mm	25/pkg
66146	TF 200, 0.2 µm, 293 mm	25/pkg
66147	TF 450, 0.45 µm, 13 mm	100/pkg
66148	TF 450, 0.45 µm, 25 mm	100/pkg
66149	TF 450, 0.45 µm, 47 mm	100/pkg
66631	TF 450, 0.45 µm, 50 mm	100/pkg
66151	TF 450, 0.45 µm, 142 mm	25/pkg
66152	TF 450, 0.45 µm, 293 mm	25/pkg
66153	TF 1000, 1 µm, 13 mm	100/pkg
66154	TF 1000, 1 µm, 25 mm	100/pkg
66159	TF 1000, 1 µm, 37 mm, with support pads	100/pkg
66155	TF 1000, 1 µm, 47 mm	100/pkg
66158	TF 1000, 1 µm, 293 mm	25/pkg

GN Metricel® MCE Membrane Disc Filters

Membrane for air monitoring applications



- Dissolves completely using standard digestion procedures.
- Clears completely, possesses low artifacts, and offers minimal interference in fiber counting.

Applications

- GN-4 Metricel filters meet NIOSH requirements for airborne metals and asbestos monitoring.

Specifications

Filter Media
Hydrophilic mixed cellulose esters

Pore Size
0.8 µm, 0.45 µm

Typical Thickness
152 µm (6 mils)

Typical Filter Weight
4 mg/cm^2

Typical Water Flow Rate
0.8 µm: 129 mL/min/cm^2 at 0.7 bar (70 kPa, 10 psi)
0.45 µm: > 65 mL/min/cm^2 at 0.7 bar (70 kPa, 10 psi)

Typical Air Flow Rate
0.8 µm: 55 L/min/3.7 cm^2 at 0.9 bar (90 kPa, 13.5 psi)

Maximum Operating Temperature - Water
74 °C (165 °F)

Typical Moisture Pick-Up
< 1% after 24 hr at 48% relative humidity at 23 °C (73 °F)

Extractables - Boiling Water
< 2%

Minimum Bubble Point - Water
1.0 bar (100 kPa, 15 psi)

Refractive Index
1.512

Ordering Information

GN-4 Metricel MCE Membrane Disc Filters, 0.8 µm

Part Number	Description	Pkg
64677	25 mm, plain, with support pads	100/pkg
66263	25 mm, plain	100/pkg
66276	25 mm, grid, packaged in 4 cavities	100/pkg
64678	37 mm, plain, with support pads	100/pkg
64679	47 mm, plain	100/pkg
66179	47 mm, grid	100/pkg

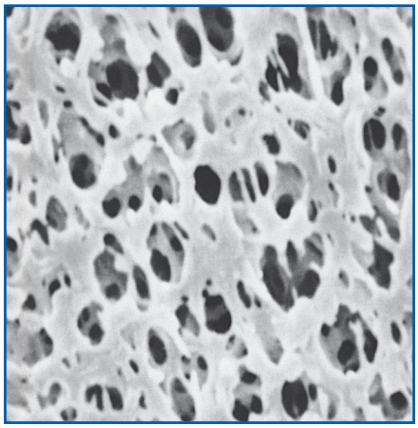
GN-6 Metricel MCE Membrane Disc Filters, 0.45 µm (Non-Sterile Packages)

Part Number	Description	Pkg
63066	13 mm, plain	100/pkg
63068	25 mm, plain	100/pkg
64191	25 mm, grid	100/pkg
64382	37 mm, plain, with support pads	100/pkg
63069	47 mm, plain	100/pkg
63020	47 mm, grid	100/pkg
66536	142 mm, plain	25/pkg

Related Products

Metricel® Polypropylene Membrane Disc Filters

Pure polypropylene membrane for filtration of aggressive solvents



- Pure polypropylene gives high chemical stability.
- Offers high temperature resistance and low extractable levels.

Applications

- Inherently hydrophobic.
- Economical alternative to PTFE.

Specifications

Filter Media
Hydrophobic polypropylene

Pore Size
0.1 µm

Typical Thickness
89 µm (3.5 mils)

Typical Liquid Flow Rate - Isopropyl Alcohol
1.9 mL/min/cm^2 at 0.7 bar (70 kPa, 10 psi)

Typical Air Flow Rate
0.8 L/min/cm^2 at 0.7 bar (70 kPa, 10 psi)

Maximum Operating Temperature - Water
82 °C (180 °F)

Minimum Bubble Point - Isopropyl Alcohol
1.7 bar (170 kPa, 25 psi)

Sterilization
Provided non-sterile. Autoclavable if desired.

Ordering Information

Metricel Polypropylene Membrane Disc Filters, 0.1 µm

Part Number	Description	Pkg
M5PU025	25 mm	100/pkg
M5PU047	47 mm	100/pkg

Related Products

In-Line Filter Holders . . . . . 268 - 272
Stainless Steel Forceps 230, 280

25 mm Air Monitoring Cassettes

Conductive, non-static cowl prevents adherence of particles to cassette walls for more accurate analysis

- 0.8 µm GN-4 Metricel® membrane has a low fiber background count. It is widely accepted for air monitoring of fibers, asbestos fibers, and metals.
- Leak proof and tamper proof. Banded cassettes ensure air-tight seal for critical applications.
- Available unassembled for cost-effective monitoring with a variety of Pall membranes.

Applications

- GN-4 Metricel membrane meets fiber count and background requirements to comply with NIOSH Methods 7400 and 7402.
- Cassettes can be used to monitor respirable constituents, such as silica, metal, and dust.

Specifications

Materials of Construction
Filter Media: GN-4 Metricel membrane (mixed cellulose esters) with cellulose support pad
Housing: Carbon-filled polypropylene

Effective Filtration Area
3.85 cm^2

Dimensions
Overall Length [Includes 5 cm (2 in.) Extension]: 7.9 cm (3.1 in.)
Diameter: 2.8 cm (1.1 in.)

Filter Size
25 mm

Inlet/Outlet Connections
Luer-type female inlet, female luer built-in hose adapter outlet

Operating Temperature
Ambient

Ordering Information

Air Monitoring Cassettes, 25 mm

Part Number	Description	Pkg
4375	Three-piece unit with GN-4 Metricel membrane and support pad	50/pkg
4382	Three-piece unit with GN-4 Metricel membrane and support pad, banded	50/pkg
4376	Three-piece unit, unassembled	50/pkg

Accessories and Replacement Parts

Part Number	Description	Pkg
66238	25 mm support pads, non-sterile	100/pkg

Related Products

Air Monitoring Membranes:

37 mm Air Monitoring Cassettes

Consistent performance for industrial hygiene sampling

- 37 mm diameter meets NIOSH and other regulatory requirements for industrial hygiene sampling using vacuum filtration.
- 0.8 µm GN-4 Metricel® membrane has a low fiber background count. It is widely accepted for air monitoring of fibers, asbestos fibers, and metals.
- Choose from two- or three-piece units.
- Disposable after a single use or may be reused.

Applications

- Designed to meet NIOSH and other regulatory requirements for industrial hygiene sampling.
- Ideally suited for particulate and air sampling analysis using vacuum filtration.
- Can be used to monitor respirable constituents, such as nuisance dust, silica, aerosols, and airborne particulates.
- For open- or closed-face monitoring methods.

Specifications

Materials of Construction
Filter Media: GHP hydrophilic polypropylene membrane, GN-4 Metricel membrane (mixed cellulose esters) with a cellulose support pad
Housing: SAN (styrene acrylonitrile)

Effective Filtration Area
9.1 cm^2

Dimensions
Overall Length:
Two-piece Unit: 2.8 cm (1.1 in.)
Three-piece Unit: 3.8 cm (1.5 in.)
Diameter: 4.2 cm (1.7 in.)

Filter Size
37 mm

Inlet/Outlet Connections
Luer-taper (female)

Operating Temperature
Ambient

Ordering Information

Air Monitoring Cassettes, 37 mm

Part Number	Description	Pkg
4338	Two-piece unit, unassembled	100/pkg
4339	Three-piece unit, unassembled	100/pkg
4336	Three-piece unit with 0.8 µm GN-4 Metricel membrane and support pad	50/pkg

Accessories and Replacement Parts

Part Number	Description	Pkg
64747	37 mm support pads, non-sterile	500/pkg
88066	Plugs, blue	100/pkg
88067	Plugs, red	100/pkg

Related Products

Air Monitoring Membranes:

AquaPrep™ Groundwater Sampling Capsules and Devices

Optimized for minimal background in dissolved metals analysis of water samples

- Easiest and most efficient way to meet filtration requirements of the U.S. EPA for 0.45 µm filtration.
- Self-contained, disposable units eliminate the time and hazards associated with cleaning filter holders.
- AquaPrep 600 capsule features over four times higher EFA than 142 mm disc filters, reducing the need for multiple filter changes during the sampling process and ensuring rapid sample filtration.
- AquaPrep 600 capsules have Metals Analysis Certification on 48 metals printed on each package.

Applications

- Designed for the preparation of groundwater samples for dissolved metals analysis.
- EFA of 19.6 cm^2 makes AquaPrep devices perfect for samples with relatively low levels of particulate matter.
- AquaPrep 600 capsules are recommended for moderately silty and particulate-laden groundwater.

Specifications

AquaPrep and AquaPrep-V Sampling Devices

Materials of Construction
Filter Media:
AquaPrep Device
Thermopor membrane (polyester-reinforced polysulfone)
AquaPrep-V Device
Versapor® membrane (acrylic copolymer on a non-woven support)
Housing: Polypropylene

Effective Filtration Area
19.6 cm^2

Dimensions
Length: 8.2 cm (3.2 in.)
Diameter: 7.3 cm (2.9 in.)

Inlet/Outlet Connections
AquaPrep Device
Stepped hose barb accepts 6.4 - 12.7 mm (1/4 - 1/2 in.) ID tubing
AquaPrep-V Device
1/8 in. MNPT

Maximum Operating Temperature
60 °C (140 °F)

Maximum Operating Pressure
5.1 bar (510 kPa, 75 psi) at ambient temperature

AquaPrep 600 Capsules

Materials of Construction
Filter Media: Supor® membrane (hydrophilic polyethersulfone)
Housing: Polypropylene

Effective Filtration Area
600 cm^2

Dimensions
Length (With Fittings): 14.5 cm (5.7 in.)
Diameter: 6.9 cm (2.7 in.)

Inlet/Outlet Connections
Stepped hose barb accepts 6.4 - 12.7 mm (1/4 - 1/2 in.) ID tubing

Maximum Operating Temperature
60 °C (140 °F)

Maximum Operating Pressure
4.1 bar (410 kPa, 60 psi) at ambient temperature

Ordering Information

AquaPrep Groundwater Sampling Device

Part Number	Description	Pkg
4270	0.45 µm, Thermopor membrane	20/pkg

AquaPrep-V Groundwater Sampling Device

Part Number	Description	Pkg
4272	0.45 µm, Versapor membrane	20/pkg
4274	0.45 µm, Versapor membrane	100/pkg

AquaPrep 600 Groundwater Sampling Capsule

Part Number	Description	Pkg
12175	0.45 µm, Supor membrane	1/pkg
12176	0.45 µm, Supor membrane	10/pkg

Related Products

GWV High Capacity Goundwater Sampling Capsules 253
Versapor® Acrylic Copolymer Membrane Disc Filters 113

GWV High Capacity Groundwater Sampling Capsules

Superior flow rates and higher throughputs

- 75 Metals Analysis Certification is printed on each package.
- Meets filtration requirements of the U.S. EPA.
- Available in a variety of pore sizes to meet regional regulatory requirements.
- Saves time and money. Self-contained devices reduce the need for costly decontamination and multiple filter change steps associated with reusable filter holders.
- Ensures rapid filtration. GWV provides five times the filtration area of conventional 142 mm filters.

Applications

- Designed for the preparation of groundwater samples for dissolved metals analysis.
- Reduces the need for multiple changes when filtering particulate-laden samples.

Specifications

Materials of Construction
Filter Media: Versapor® membrane (acrylic copolymer on a non-woven support)
Housings: Polypropylene

Effective Filtration Area
700 cm^2

Dimensions
Length (With Fittings): 11.4 cm (4.5 in.)
Diameter: 6.4 cm (2.5 in.)

Inlet/Outlet Connections
1/8 in. MNPT

Maximum Operating Temperature
88 °C (190 °F)

Maximum Operating Pressure
3.4 bar (340 kPa, 50 psi) at ambient temperature

Ordering Information

GWV High Capacity Groundwater Sampling Capsules

Part Number	Description	Pkg
12178	0.45 µm	1/pkg
12179	0.45 µm	10/pkg
12180	0.45 µm	50/pkg
12023	1 µm	1/pkg
12024	1 µm	10/pkg
12025	1 µm	50/pkg
12019	5 µm	1/pkg
12020	5 µm	10/pkg
12050	5 µm	50/pkg

Related Products

AquaPrep 600 Groundwater Sampling Capsules 252
AquaPrep™ Groundwater Sampling Devices. 252
Versapor® Acrylic Copolymer Membrane Disc Filters 113

Envirochek® and Envirochek HV Sampling Capsules

For the concentration and recovery of Cryptosporidium *oocysts and* Giardia *cysts from source or finished water*

- Simple to use. No assembly or cleaning of filter holders or elution equipment.
- Saves time by allowing the processing of multiple samples at the same time.
- Disposable design eliminates cross-contamination and false positives.
- Typically greater than 70% recovery of target organisms.
- Eliminates false negatives with 1 µm pore size membrane for retention of *Cryptosporidium* and *Giardia*. Envirochek HV capsules are 100% integrity tested.
- Safer to use. Self-contained capsules mean that the potentially contaminated filter element does not need to be handled or cut apart.
- Capsules are serialized for traceability.

Applications

- Envirochek sampling capsules are validated and listed in U.S. EPA Methods 1622 and 1623.1, and used for sampling source water for *Cryptosporidium* and *Giardia*.
- Envirochek HV capsule is designed for sampling up to 1,000 L or more of treated water and is validated for up to 50 L of source water.
- Envirochek HV capsules, PNs 12096 and 12097, are approved for the United Kingdom DWI regulatory testing of finished water.
- Envirochek capsules are listed in ISO/DIS 15553-2006.

Specifications

Materials of Construction

Envirochek Capsule
(PN 12110 and 12107)
Filter Media: Supor® membrane (hydrophilic polyethersulfone)
Housing: Polycarbonate
Filter Support Material: Polypropylene
End Caps: Green vinyl
Adhesive: Urethane

Envirochek HV Capsule
(PN 12099, 12098, 12097, and 12096)
Filter Media: Polyester, hydrophilic membrane
Housing: Polycarbonate
Filter Support Material: Polypropylene
End Caps: Blue vinyl
Adhesive: Urethane

Effective Filtration Area

1,300 cm^2

Dimensions

Length: 21.6 cm (8.5 in.)
Diameter: 6.1 cm (2.4 in.)

Inlet/Outlet Connections

12.7 mm (1/2 in.) straight hose barb

Elution Capacity

Minimum of 127 mL

Performance

	Approximate Time to Process Eight Samples (Minutes)	
Step	**Envirochek Capsule**	**Other Major Device**
Set-Up	5	50
Elution	55	240
Concentration	65	240
Cleaning Equipment	0	320
Total Time	**125**	**850**
Time/Test (minutes)	**16**	**106**

For more information on the sampling procedure and additional test data, visit our online Literature Library at www.pall.com/lab.

Performance (continued)

The Envirochek® HV capsule has been validated for testing source water up to 50 L and for high volumes of drinking water analysis up to 1,000 liters (see Table 2). High flow rates and throughput are achieved due to the high filtration area that comes from the patented pleated design. This pleated design provides 1,300 cm^2 of filtration area that allows for high flow rate at very low differential pressures. This means gravity feed or smaller pumps can be used and easily carried into the field for site sampling. Site sampling eliminates the need for carrying and shipping bulky containers of water.

The patented recovery method used with the Envirochek HV capsule allows for processing up to eight filters at one time, saving valuable lab time. The method is the easiest and simplest one available.

IPR Tier 1 Validation Data for *Cryptosporidium* Recovery Using Method 1622 and the Envirochek HV Capsule for 1,000 L Finished Drinking Water Samples Using the Sodium Hexametaphosphate Elution

Sample Description	Turbidity (ntu)	Spike Dose (#)	% Recovery		
Reagent Blank	< 0.1	0			
IPR2	< 0.1	99.3	68.5		
IPR2	< 0.1	99.3	58.4		
IPR3	< 0.1	99.3	60.4	**Mean % Recovery**	**RSD or RPD**
IPR4	< 0.1	99.3	61.4	**62.2**	**7.0**
IPR Acceptable Range				**13 - 143**	**< 67 %**

IPS and MS/MSD Validation Data for *Cryptosporidium* Recovery Using Method 1622 and the Envirochek HV Capsule with 50 L of Source Water

IPR Reagent Water

N	Turbidity (ntu)	Packed Pellet Size (mL)	Spike Dose (#)	Avg. % Recovery	Avg. RSD (%)
12	< 0.1	< 0.1	95.9	57.7	15.1
IPR Acceptable Range				**24 - 100**	**< 55%**

IPR Matrix Spike

N	Turbidity (ntu)	Packed Pellet Size (mL)	Spike Dose (#)	Avg. % Recovery	Avg. RSD (%)
6	1.8 - 10.6	0.45 - 3.0	95.9	52.5	10.5
IPR Acceptable Range				**13 - 111**	**< 51%**

IPR = Initial Precision and Recovery
RSD = Relative Standard Deviation
RPD = Relative Percent Difference

Ordering Information

Envirochek and Envirochek HV Sampling Capsules

Part Number	Description	Pkg
12099	Envirochek HV sampling capsule	1/pkg
12098	Envirochek HV sampling capsule, bulk pack, individually bagged	25/pkg
12110	Envirochek sampling capsule	1/pkg
12107	Envirochek sampling capsule, bulk pack, individually bagged	25/pkg

Accessories and Replacement Parts

Part Number	Description	Pkg
4820	Laureth-12 paste, 50 g bottle	1/pkg
4821	Laboratory shaker, 115 V, 50/60 Hz	1/pkg
4822	Laboratory shaker, 230 V, 50/60 Hz CE	1/pkg
89051	Clamp with collar	1/pkg

The Laboratory Shaker processes up to eight Envirochek sampling capsules at once. Shaker speed is adjustable from 0 to ~ 700 RPMs.