

Whatman®

Part of GE Healthcare



Capsule product guide

Unprecedented performance and choice



Contents

| | |
|-------|-----------------------------|
| 1 | Introduction |
| 2 | Quick application guide |
| 3 | Polycap™ TC/PES |
| 4 | Polycap TF |
| 5 | Polycap AS |
| 6 | Polycap SPF |
| 7 | Polycap HD |
| 8 | <i>PolyVENT™/SteriVENT™</i> |
| 9 | HEPA-CAP™ |
| 10 | VACU-GUARD™ 150 |
| 11 | Carbon Cap™ |
| 12 | Polycap GW |
| 14-15 | Product selection guide |
| 16-17 | Flow rate charts |

Whatman™ capsule products

The filtration of large sample volumes requires products which permit high throughput and flow rates. Whatman capsule filters combine high efficiency media and innovative design features with a choice of filtration media for use in a wide range of applications.

A range of capsule sizes is available enabling users to scale-up volumes from a few liters to several hundred liters, whilst using the same filter media type.

These capsules are available with a variety of end fittings for easy connection in a range of process lines.

Whatman capsule filters are recommended for the fast and efficient filtration of many different sample types. The Quick Application Guide on page 2 indicates product suitability by application area and sample type.

The product selection guide on page 13 readily identifies the most appropriate product based on particle retention. The table on pages 14 and 15 indicates the end fittings available for each product range.

Whatman products are manufactured with the highest quality materials, under exacting clean room conditions using ISO-controlled manufacturing processes. All devices are produced without the use of adhesives to ensure product purity.

For highly reliable performance — in any application — trust our comprehensive range of capsule filtration devices.



Quick application guide

Application

1. Cleaning/rinsing solutions
2. Cosmetics and personal care products
3. Decolorizing and oil clarification
4. Filtering ground water samples before dissolved metal analysis
5. Food and beverage
6. Immunologicals
7. Inks and pigments
8. Instrument outlet exhausts
9. Particle counting
10. Particulate removal from gases
11. Removal of noxious odors, oil mists, and contaminants
12. Serum prefiltration
13. Tissue culture media
14. Vacuum pump protection
15. Venting
16. Viral suspensions
17. Water, chemical, and reagent purification

Sample Type

- A. Aqueous solutions
- B. Biologicals
- C. Buffers
- D. Electronics (gases)
- E. Enzymes
- F. Gases
- G. Ground water
- H. Inks and pigments
- I. Nutrients
- J. Ophthalmic solutions
- K. Photographic emulsions and make-up water
- L. Reagents
- M. Salt solutions
- N. Solvents
- O. Tissue culture media
- P. Virus suspensions

Polycap TC/PFES

Polyethersulfone membrane

Application

1 5 9

13 16 17

Sample Type

A B C E I

L M O P

(Page 3)



Polycap AS

Nylon membrane with prefilter

Application

2 5 6

13 16 17

Sample Type

A B C E I

J L M N

(Page 5)



Polycap SPF

Serum prefiltration filter

Application

12 13 16

Sample Type

A B C E

I O P

(Page 6)



Polycap TF

PTFE membrane

Application

15 17

Sample Type

D F N

(Page 4)



Polycap HD

Polypropylene depth filter

Application

2 5

7 17

Sample Type

A B C E

H K L N

(Page 7)



PolyVENT/SteriVENT

PTFE vent membrane

Application

15

Sample Type

F

(Page 8)



HEPA-CAP

Glass microfiber air filter

Application

10

Sample Type

F

(Page 9)



VACU-GUARD 150

Carbon/desiccant/
molecular sieve
and PTFE

Application

14

Sample Type

D F

(Page 10)



Carbon Cap

Activated carbon and glass
microfiber

Application

3 8 10

11 17

Sample Type

A D F

(Page 11)



Polycap GW

Polyethersulfone
membrane

Application

4

Sample Type

G

(Page 12)



Note: For guidance only. Only a selection of applications shown above.

Polycap TC/PES

Critical filtration of virus suspensions, tissue culture media, and food and beverage solutions require products that are designed and produced using the highest quality techniques and materials to ensure that they do not compromise sample integrity and purity in any way. The cleanliness of the PES filtration membrane combined with stringent testing employed during the manufacturing process, ensures that Polycap TC is amongst the most suitable capsules available for these applications.

Polycap TC are disposable, dual layer polyethersulfone (PES) membrane filtration capsules that provide efficient filtration for critical aqueous solutions. The PES membrane is inherently hydrophilic, has excellent flow rates, low extractables, is biosafe, and exhibits low protein binding.

Polycap TC high performance features

- Available in sterile and nonsterile versions with a filling bell option
- 100% integrity tested during manufacturing
- Manufactured in clean room facilities under ISO Quality Systems
- Integrity testable by bubble point, pressure decay or forward flow methods
- Polycap TC 0.2/0.1, 0.2/0.2, and 0.8/0.2 μm pass the HIMA Challenge Test for Sterilizing Grade Filters
- PES membrane protein adsorption characteristics:
 - HSA 0.4 $\mu\text{g}/\text{cm}^2$
 - Insulin 2.0 $\mu\text{g}/\text{cm}^2$
 - Gammaglobulin 1.5 $\mu\text{g}/\text{cm}^2$

Applications

- Cleaning/rinsing solutions
- Food and beverage
- Particle counting
- Tissue culture media
- Viral suspensions
- Water, chemical, and reagent purification

Sample Type

- Aqueous solutions
- Biologicals
- Buffers
- Enzymes
- Nutrients
- Reagents
- Salt solutions
- Tissue culture media
- Virus suspensions



Polycap TC devices

Available in a range of sizes, Polycap TC can be used with a variety of sample volumes and provides flexibility to scale-up your project.

Please see the product selection guide on pages 14 to 15 for catalog numbers and the water flow rates on pages 16 to 17.

Technical Specification

| | |
|--|--|
| Housing: | Polypropylene |
| Vent: | On inlet |
| Membrane: | Polyethersulfone (PES) |
| Support system: | Polypropylene |
| Sealing: | Heat fused |
| Maximum pressure: | 4.1 bar (60 psi) |
| Flow direction: | If there is a prefilter, it is located on the inlet side and flow should follow arrows |
| Nonpyrogenic: | LAL tested, nonreactive |
| Biosafety: | Materials pass USP Class VI |
| Sterilization: | Certain filter devices have been sterilized.* They may be autoclaved once at a minimum of 121°C for 20 min (maximum 132°C). However, an integrity test should be performed after autoclaving. [*Sterile and nonsterile options offered.] |
| Filtration area: | 36 mm capsule: 440 cm^2 75 mm capsule: 930 cm^2 150 mm capsule: 1900 cm^2 |
| Water bubble point: (final membrane) | 0.1 μm membrane: > 3.2 bar (46 psi) 0.2 μm membrane: > 2.7 bar (40 psi) 0.45 μm membrane: > 2.1 bar (30 psi) 1.0 μm membrane: > 1.1 bar (16 psi) |

Polycap TF

Polycap TF filter devices contain the durable, hydrophobic polytetrafluoroethylene (PTFE) membrane. Together with the polypropylene housing, these capsules are designed for use with organic solvents and chemically aggressive solutions.

Polycap TF high performance features

- Able to be sterilized by autoclaving with steam or ethylene oxide (EtO)
- Manufactured in clean room facilities under ISO Quality Systems
- Resistant to most solvents and integrity testable
- Polycap TF 0.05 µm is designed for “ultra clean” applications
- Polycap TF 1.0 µm can be used with highly contaminated organic solvents
- Hydrophobic PTFE membrane

Applications

- Venting
- Water, chemical, and reagent purification

Sample Type

- Electronics (gases)
- Gases
- Solvents

The hydrophobic nature of the PTFE membrane and the robust design of the PP housing turn the Polycap TF into an outstanding device for the filtration of organic solvents and aggressive solutions. The PTFE membrane is also highly suited for venting applications. Gases and air can be filtered inline, while water droplets are retained on the surface of the membrane.

Available in a range of sizes, the Polycap TF can be used with a variety of sample volumes.

Please see the product selection guide on pages 14 to 15 for catalog numbers and the air and water flow rates on pages 16 to 17.

Related products

A range of disc filters is also available with a reduced filtration area for smaller sample volumes.

Please contact information@whatman.com for more information.



Polycap TF device

Technical Specification

| | |
|-------------------------------|---|
| Housing: | Polypropylene |
| Membrane: | PTFE |
| Vent: | On inlet |
| Support system: | Polypropylene |
| Sealing: | Heat fused |
| Maximum pressure: | 4.1 bar (60 psi) |
| Flow direction: | Supported bidirectionally. Certain applications may require orientation, (i.e., vents). Reverse flow only for low pressure applications. |
| Biosafety: | Materials pass USP Class VI |
| Sterilization: | May be autoclaved at 121°C for 20 min (maximum 132°C). Multiple autoclave cycles are possible. However, the responsibility for reuse is with the operator. The device should be protected from cross contamination. An integrity test should be performed after autoclaving. Compatible with EtO sterilization. |
| Filtration area: | 36 mm capsule: 500 cm ² 75 mm capsule: 1000 cm ² 150 mm capsule: 2000 cm ² |
| Methanol bubble point: | 0.05 µm membrane: 2.4 bar (35 psi) 0.1 µm membrane: 1.7 bar (25 psi) 0.2 µm membrane: 0.9 bar (13 psi) 0.45 µm membrane: 0.5 bar (7 psi) 1.0 µm membrane: 0.2 bar (3 psi) |

Polycap AS

Polycap AS is recommended for filtering aqueous solutions. It combines a glass microfiber (GMF) prefilter and a nylon membrane, improving flow rates and prolonging the life of the filter. This allows users to filter larger volumes and to filter difficult samples more easily.

Polycap AS high performance features

- Nylon membrane is hydrophilic, has low extractables, and is biosafe
- GMF acts as a prefilter to improve flow rates and filtration efficiency
- Available in sterile and nonsterile versions with a filling bell option (autoclavable)
- Manufactured in clean room facilities under ISO Quality Systems
- Integrity testable by bubble point, pressure decay or forward flow methods
- Provides highly effective filtration area in a small size

Applications

- Cosmetics and personal care products
- Food and beverage
- Tissue culture media
- Immunologicals
- Viral suspensions
- Water, chemical, and reagent purification

Sample Type

- Aqueous solutions
- Biologicals
- Buffers
- Enzymes
- Nutrients
- Ophthalmic solutions
- Reagents
- Salt solutions
- Solvents

Heavily loaded and aqueous solutions including virus suspensions, biological suspensions, admixtures, enzymes, and buffers can be filtered using Polycap AS. The nylon membrane, together with the GMF prefilter, creates a high performance capsule, offering the flexibility to filter a variety of different aqueous samples. Different sizes of capsule are available, with a choice of inlet/outlet connections.

Please see the product selection guide on pages 14 to 15 for catalog numbers and the water flow rates on pages 16 to 17.



Polycap AS device

Related products

A range of disc filters is also available with a reduced filtration area for smaller sample volumes. Please contact information@whatman.com for more information.

Technical Specification

| | |
|---|---|
| Housing: | Polypropylene |
| Vent: | On inlet |
| Prefilter: | Glass microfiber double laminated with polyolefin monofilament nonwoven |
| Membrane: | Nylon |
| Support system: | Polypropylene |
| Sealing: | Heat-fused |
| Maximum pressure: | 4.1 bar (60 psi) |
| Nonpyrogenic: | LAL tested, nonreactive |
| Biosafety: | Materials pass USP Class VI |
| Sterilization: | These capsules are autoclavable at 121°C for 20 min (maximum temperature is 132°C). However, an integrity test should be performed after autoclaving. |
| Filtration area: | 36 mm capsule: 400 cm ² 75 mm capsule: 820 cm ² 150 mm capsule: 1650 cm ² |
| Water bubble point: (typical) | 0.2 µm membrane: 2.9 bar (42 psi) 0.45 µm membrane: 2.1 bar (30 psi) 1.0 µm membrane: 0.5 bar (8 psi) |

Polycap SPF

Polycap SPF (serum prefilter) is an excellent product that is optimized for prefiltration applications. To extend the life of Polycap AS and Polycap TC, the Polycap SPF is used inline upstream of these devices to capture the largest particles and prevent blocking of the final capsule.

Polycap SPF high performance features

- Three layers of special media (GMF/PES)
- GMF acts as a prefilter to improve flow rates and filtration efficiency
- Able to be sterilized by autoclaving with steam or ethylene oxide (EtO)
- Manufactured in clean room facilities under ISO Quality Systems

Applications

- Serum prefiltration
- Tissue culture media
- Viral suspensions

Sample Type

- Aqueous solutions
- Biologicals
- Buffers
- Enzymes
- Nutrients
- Tissue culture media
- Virus suspensions

Serum is difficult to filter, as the presence of high levels of lipids, triglycerides, and lipoproteins can cause rapid clogging of the final filter. Polycap SPF includes a stack of filtration media which creates an innovative total filter concept able to retain various size particulates. Used inline with Polycap TC and Polycap AS, the Polycap SPF will prolong the life of these filtration devices.

Please see the product selection guide on pages 14 to 15 for catalog numbers and the water flow rates on pages 16 to 17.



Polycap SPF device

Related products

A range of disc filters is also available with a reduced filtration area for smaller sample volumes. Please contact information@whatman.com for more information.

Technical Specification

| | |
|--------------------------|--|
| Housing: | Polypropylene |
| Vent: | On inlet |
| Prefilter: | Two layers of glass microfiber |
| Membrane: | Polyethersulfone (PES) |
| Support system: | Polypropylene |
| Sealing: | Heat fused |
| Maximum pressure: | 4.1 bar (60 psi) |
| Sterilization: | Autoclave at 121°C for 20 min (132°C max) |
| Filtration area: | 36 mm capsule: 260 cm ² 75 mm capsule: 535 cm ² 150 mm capsule: 1100 cm ² |

Polycap HD

Polycap HD (Heavy Duty) is a well engineered product that offers high filtration efficiency and excellent filtrate purity due to the materials and methods used in the manufacturing process. Polycap HD provides an advantage in process applications as its performance characteristics fit between gross filters and microporous membrane filters used for final filtration.

Polycap HD high performance features

- Able to be sterilized by autoclaving with steam or ethylene oxide (EtO)
- Manufactured in clean room facilities under ISO Quality Systems
- Manual vent with Luer lock connector to bleed air from upstream or serve as an injection or sample port
- Materials of construction are FDA approved for food contact
- Polypropylene (PP) membrane and housing

Applications

- Cosmetics and personal care products
- Food and beverage
- Inks and pigments
- Water, chemical, and reagent purification

Sample Type

- Aqueous solutions
- Biologicals
- Buffers
- Enzymes
- Inks and pigments
- Photographic emulsions and make-up water
- Reagents
- Solvents

The PP construction enables the Polycap HD to be used with a broad range of solutions at various pH and temperature in areas including ink and pigment applications. The device is available in a variety of sizes and with a choice of pore size (0.2, 0.45, 1.0, 5.0 or 10.0 μm) which provides the flexibility to filter different sample volumes and to scale-up your project.

Please see the product selection guide on pages 14 to 15 for catalog numbers and the water flow rates on pages 16 to 17.



Polycap HD devices

Related products

A range of disc filters is also available with a reduced filtration area for smaller sample volumes. Please contact information@whatman.com for more information.

Technical Specification

| | |
|--------------------------|--|
| Housing: | Polypropylene |
| Vent: | On inlet |
| Filter media: | Polypropylene |
| Support system: | Polypropylene |
| Biosafety: | Materials pass USP Class VI |
| Filtration area: | 36 mm capsule: 400 cm ² 75 mm capsule: 820 cm ² 150 mm capsule: 1650 cm ² |
| Sterilization: | These capsules are autoclavable at 121°C for 20 min (maximum temperature is 132°C) |
| Nonpyrogenic: | LAL tested, nonreactive |
| Maximum pressure: | 4.1 bar (60 psi) |

PolyVENT/SteriVENT

PolyVENT/SteriVENT is an integral filter product for sterile venting of vessels, fermentors, and tanks. These devices are constructed from a single, standardized set of materials – a 0.2 µm PTFE membrane and polypropylene housing – to simplify the approval process.

PolyVENT/SteriVENT high performance features

- Able to be sterilized by autoclaving with steam or ethylene oxide (EtO)
- 100% integrity tested during manufacturing (capsules only)
- Manufactured in clean room facilities under ISO Quality Systems
- Integrity testable by bubble point or water break through
- Pass USP Class VI biosafety tests for plastics
- Retain > 10⁷ CFU/cm² *Brevundimonas diminuta* per ASTM F838-83 standards and passes the HIMA challenge test for sterilizing grade

Applications

- Venting

Sample Type

- Gases

Venting is a critical part in many processes. Preventing harmful contaminants from entering or leaving the vessel, fermentor or tank is vital to ensure consistency in the results and that there are no influences on the sample. The PolyVENT/SteriVENT devices are manufactured using high quality materials and closely controlled manufacturing and quality control processes to meet the requirements of this application.

Different sizes of capsules provide the flexibility to filter various sample volumes to scale-up your project.

Please see the product selection guide on pages 14 to 15 for catalog numbers and the air flow rates on pages 16 to 17.



Selection of PolyVENT devices

Related products

A range of disc filters is also available with a reduced filtration area for smaller sample volumes. Please contact information@whatman.com for more information.

Technical Specification

| | |
|-----------------------------|---|
| Housing: | Polypropylene |
| Filter media: | PTFE |
| Pore size: | 0.2 µm |
| Vent: | On inlet |
| Support system: | Polypropylene |
| Sealing: | Heat fused |
| Maximum pressure: | 2 bar (29 psi) — forward direction |
| Water break through: | 2 bar (29 psi)/15 seconds |
| Flow direction: | Supported bidirectionally. Certain applications may require orientation, (i.e., vents). The pressure rating is not the same in both directions. Reverse flow only for low pressure applications. |
| Biosafety: | Materials pass USP Class VI |
| Sterilization: | Can be autoclaved at 121°C for 20 min (maximum 132°C). Multiple autoclave cycles are possible. However, the responsibility for reuse is with the operator. The device should be protected from cross contamination. An integrity test should be performed after autoclaving. Compatible with EtO sterilization. |
| Nonpyrogenic: | LAL total, nonreactive |
| Filtration area: | 36 mm capsule: 500 cm ² 75 mm capsule: 1000 cm ² 150 mm capsule: 2000 cm ² |

HEPA-CAP

High efficiency particulate air (HEPA) filter media is used throughout the scientific, research, and industrial environments in a variety of air and gas filtration applications. The Whatman HEPA-CAP device provides high retention, dirt holding capacity, and flow rates for these application areas.

HEPA-CAP high performance features

- Can be sterilized by autoclaving with steam or ethylene oxide (EtO)
- Glass filter media strengthened by dual lamination with a tough polyester monofilament
- Manufactured in clean room facilities under ISO Quality Systems
- Durable polypropylene housing
- Depth filter design allows high loading capacity
- Retains 99.97% of all particles $\geq 0.3 \mu\text{m}$ in air

Applications

- Particle removal from gases

Sample Type

- Gases

The design of the depth filter gives a high flow rate and low pressure drop ensuring clean air passes in and out of vessels. The HEPA-CAP device prevents bacterial, algal or fungal contamination in fermentors and incubators and is suitable for particle removal from air and gases; as a prefilter for suction; and for gas inline filtration.

Different sizes of capsules provide the flexibility required to filter various volumes of samples and to scale-up your project.

Please see the product selection guide on pages 14 to 15 for catalog numbers and the air flow rates on pages 16 to 17.

Related products

A range of disc filters is also available with a reduced filtration area for smaller sample volumes. Please contact information@whatman.com for more information.



HEPA-CAP devices

Technical Specification

| | |
|--------------------------|---|
| Housing: | Polypropylene |
| Filter media: | Laminated hydrophobically-treated GMF |
| Support system: | Polypropylene |
| Sealing: | Heat fused |
| Maximum pressure: | 4.1 bar (60 psi) |
| Flow direction: | Bidirectional |
| Biosafety: | Materials pass USP Class VI |
| Sterilization: | Autoclavable |
| Filtration area: | 36 mm capsule: 625 cm ² 75 mm capsule: 1300 cm ² 150 mm capsule: 2590 cm ² |

VACU-GUARD 150

VACU-GUARD inline filter devices protect vacuum sources from harmful aqueous aerosols and liquids and also offer protection for the workplace environment. The VACU-GUARD device is available in several formats: activated carbon for organic vapors, anhydrous calcium sulfate for capturing high velocity aerosols, and zeolite for cleaning alkaline and organic airstreams.

VACU-GUARD 150 high performance features

- The PTFE membrane retains 99.99% of airborne particles greater than 0.1 µm
- Available with a choice of chemical trap to ensure retention of organic vapors, aerosols or organic airstreams
- Durable polypropylene housing
- Designed for inline use

Applications

- Vacuum pump protection

Sample Type

- Electronics (gases)
- Gases

VACU-GUARD 150 capsules are specifically designed to provide protection of the work environment. In addition, Vacu-Guard disc filters (diameter 50 or 60 mm) are available for general vacuum pump protection.

The choice of chemical trap media within these capsules provides the necessary flexibility to filter a variety of airstreams.

Please see the product selection guide on pages 14 to 15 for catalog numbers and the air flow rates on pages 16 to 17.

Related products

The VACU-GUARD disc filter is also available in 50 mm and 60 mm formats for smaller sample volumes. Please contact information@whatman.com for more information.



VACU-GUARD 50 mm disc filter



VACU-GUARD 150 device

Technical Specification

| | | | |
|--|---|-----------------------------|-----------------------------------|
| Product: | VACU-GUARD 150 Activated Carbon | VACU-GUARD 150 Desiccant | VACU-GUARD 150 Molecular Sieve |
| Chemical trap media: | Activated Carbon | Anhydrous Calcium Sulfate | Silica Aluminate Zeolite |
| Filter media: | PTFE | PTFE | PTFE |
| Surface area or weight: (nominal) | 82 000 m ² (Carbon) | 318 g (Desiccant) | 318 g (Zeolite) |
| Maximum operating pressure: | | | |
| Dry gas | 4.1 bar (60 psi) | 4.1 bar (60 psi) | 4.1 bar (60 psi) |
| Wet gas | 1 bar (14 psi) | 1 bar (14 psi) | 1 bar (14 psi) |
| Connectors: | Inlet: Hose barb for 12.7 mm (1/2") tube Outlet 10 to 12 mm (3/8" to 1/2") step barb | | |

Carbon Cap

The Carbon Cap filter capsule is suitable for adsorption of organics from air and removal of color, organics, and chlorine from water. The activated carbon, in combination with a pleated HEPA filter, provides an outstanding device for continuous purifications.

Carbon Cap high performance features

- Large surface of activated carbon for effective operation
- Pleated glass microfiber HEPA filter structure
- Retains 99.97% of particles > 0.3 μm
- Durable polypropylene housing
- Available in two sizes to suit your specific application

Applications

- Decolorizing and oil clarification
- Instrument outlet exhausts
- Particulate removal from gases
- Removal of noxious odors, oil mists, and contaminants
- Water, chemical, and reagent purification

Sample Type

- Aqueous solutions
- Electronics (gases)
- Gases

Carbon Cap can be used to filter both gases and liquids. Compressed air lines, vacuum pumps, and outlet exhausts are sometimes contaminated with noxious odors, oil mists, and other contaminants. Carbon Cap offers a solution to eliminate a potential health hazard from the workplace.

Two sizes of capsule provide the flexibility to filter various sample volumes to scale-up your project.

Please see the product selection guide on pages 14 to 15 for catalog numbers and the air and water flow rates on pages 16 to 17.



Carbon Cap devices

Technical Specification

| | |
|--|---|
| Housing: | Polypropylene |
| Filter media: | Activated carbon with a pleated HEPA cartridge |
| Support system: | Polypropylene |
| Sealing: | Heat fused |
| Maximum pressure: | 4.1 bar (60 psi) |
| Surface area: (activated carbon) | 75 capsule: 26 000 m ² 150 capsule: 82 000 m ² |

Polycap GW

The Water Framework Directive (2000/60/EG) requires that all inland and coastal waters within defined River Basin Districts must reach at least *good status* by 2015. This includes both surface waters, such as rivers, lakes, and coastal waters, and groundwater. In order to prepare samples prior to analyzing the dissolved heavy metals, we have developed a range of products for both in-the-field and in-house sample preparation based on a 0.45 µm membrane.

Polycap GW high performance features

- Large filtration surface (600 cm²) ensures rapid sample collection
- Connects directly to the tubing outlet of a sampling pump
- Durable polypropylene housing
- Housing components are thermally fused (no glues, adhesives, metals, epoxies or extraneous materials)
- Also available in 1.0 and 5.0 µm formats

Application

- Filtering ground water samples before dissolved metal analysis

Sample Type

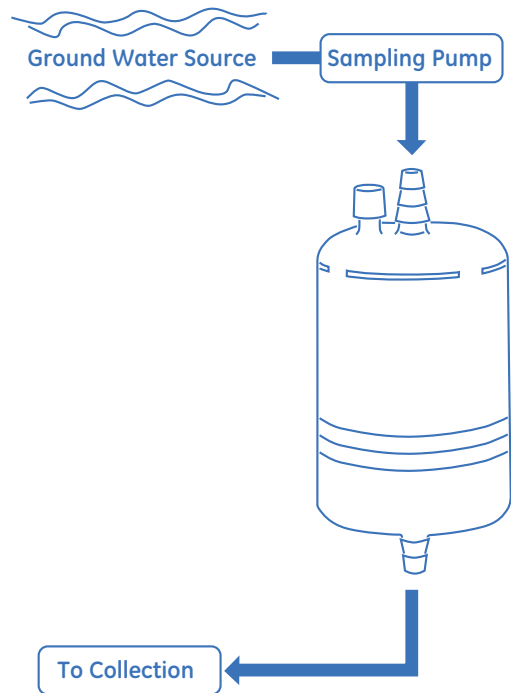
- Ground water

Other Products Available

- The Polydisc GW filter is available for smaller sample volumes
- GD/XP syringe filters are designed for use with samples that require inorganic ion analysis



GD/XP syringe filter and Polydisc GW disc filter



Whatman Polycap GW is designed to make the process of collecting ground water samples for analysis quick, easy, and convenient.

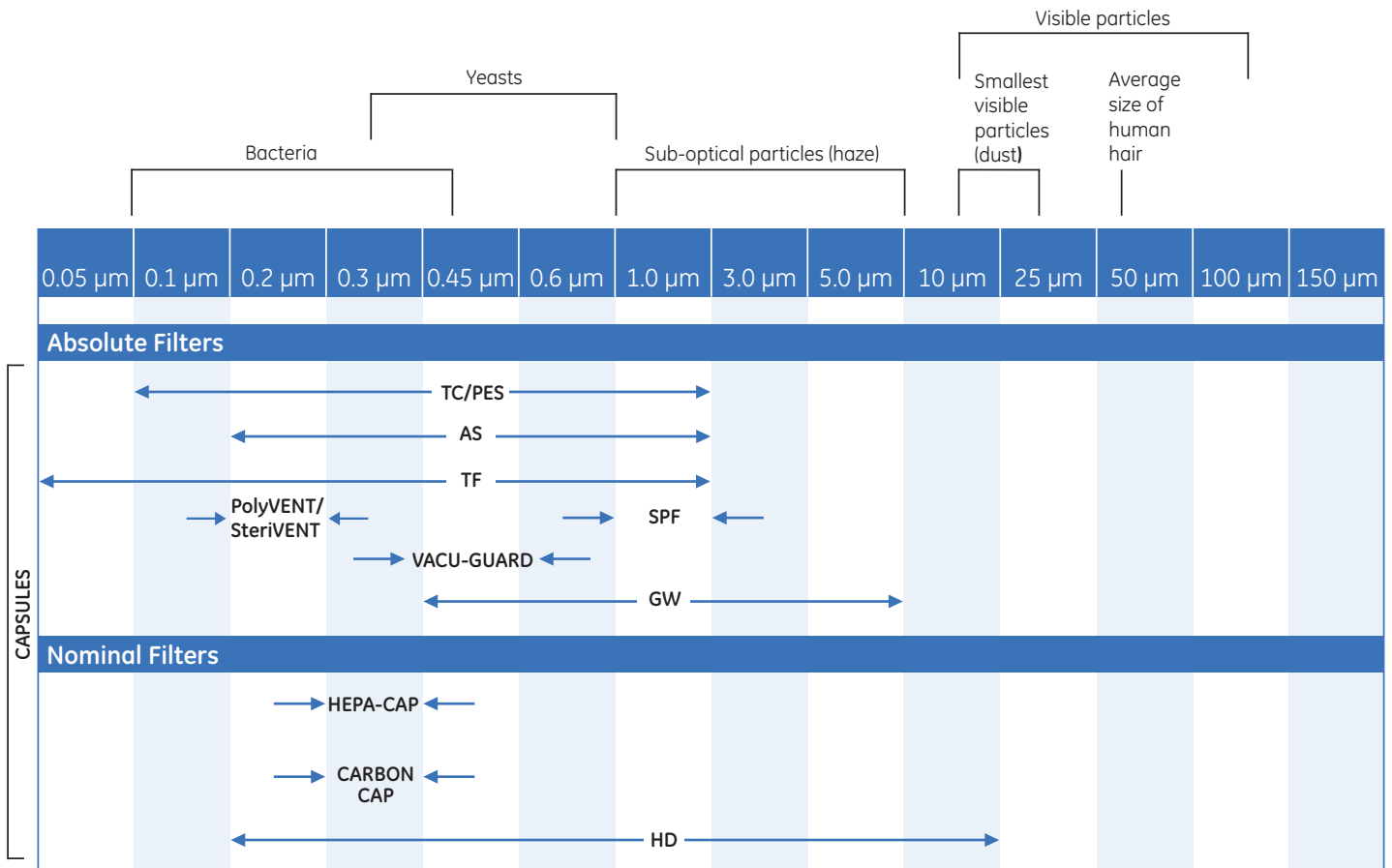
Polycap GW capsules have been developed for sample preparation in the field prior to analysis of dissolved or suspended metals. Whatman also offers the Polydisc GW inline filter (20.4 cm²) containing a quartz fiber prefilter and a 0.45 µm nylon membrane for the preparation of smaller sample volumes. In the laboratory the GD/XP syringe filter is recommended for this application. The GD/XP syringe filter is available with a 0.45 µm nylon membrane and double polypropylene prefilter.

Please see the product selection guide on pages 14 to 15 for catalog numbers.

Technical Specification

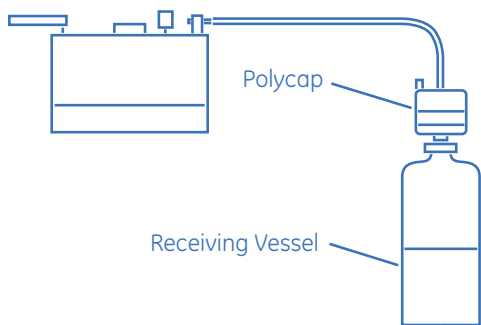
| | |
|---------------------------------|---|
| Housing: | Polypropylene |
| Filter media: | 0.45 µm: PES membrane 1.0 µm: Polypropylene filter 5.0 µm: Polypropylene filter |
| Inlet/outlet: | 6 to 9 mm (1/4" to 3/8") stepped barb (SB) |
| Support system: | Polypropylene |
| Vent: | On inlet |
| Filtration area: | 600 cm ² (93 in ²) |
| Wetting characteristics: | Hydrophilic |
| Maximum pressure: | 4.1 bar (60 psi) |
| Flow direction: | Flow should follow arrows |

Selecting and using capsule filter devices

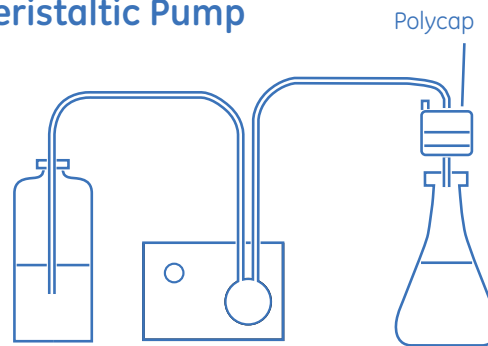


Filtration systems using Polycap devices

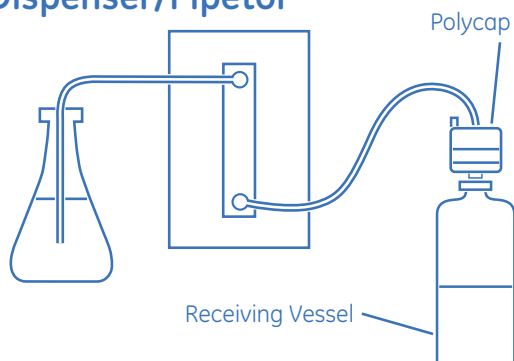
Pressure



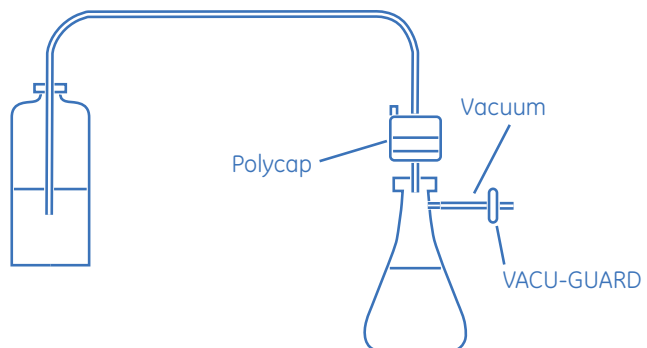
Peristaltic Pump



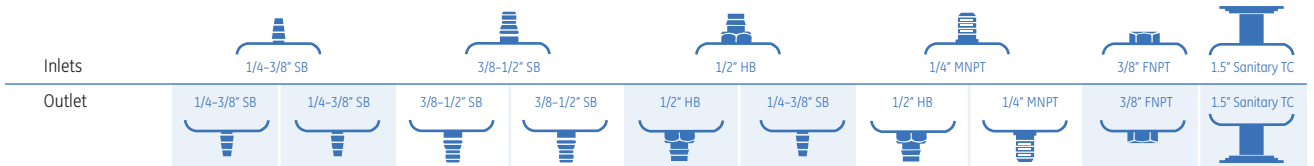
Dispenser/Pipetor



Vacuum



Product selection guide



| | | 1/4-3/8" SB | | 3/8-1/2" SB | | 1/2" HB | | 1/4" MNPT | | 3/8" FNPT | 1.5" Sanitary TC |
|---------------------------|------------------|-------------|--|-------------|--|-------------|--|-------------|--|-------------|------------------|
| Inlets | | 1/4-3/8" SB | | 3/8-1/2" SB | | 1/2" HB | | 1/4" MNPT | | 3/8" FNPT | 1.5" Sanitary TC |
| Outlet | | 1/4-3/8" SB | | 3/8-1/2" SB | | 1/2" HB | | 1/4" MNPT | | 3/8" FNPT | 1.5" Sanitary TC |
| PolyVENT/SteriVENT | | | | | | | | | | | |
| 0.2 µm | 36 mm | 6713-5036 ■ | | 2103 ■ | | | | | | | |
| | 75 mm | | | 6713-1075 ■ | | | | | | | |
| | 150 mm | | | 2107 ■ | | | | | | 2108 ■ | |
| Polycap HD* | | | | | | | | | | | |
| 0.2 µm (Nom)/ | 36 mm | | | | | | | | | 2610T ▲ | |
| 0.45 µm (Abs) | 75 mm | | | | | 2710 ▲ | | | | 2710T ▲ | |
| | 150 mm | | | | | 6703-9502 ■ | | | | 2810T ▲ | |
| 0.45 µm (Nom)/ | 36 mm | 6703-3610 ■ | | | | | | 6707-3612 ■ | | 2611T ▲ | |
| 1.0 µm (Abs) | 75 mm | | | 6703-7510 ■ | | | | | | 2711T ▲ | |
| | 150 mm | | | | | 6703-9504 ■ | | | | 2811T ▲ | |
| 1.0 µm (Nom)/ | 36 mm | 6703-3650 ■ | | | | | | | | 2612T ▲ | |
| 5.0 µm (Abs) | 75 mm | | | 6703-7550 ■ | | 2712 ▲ | | 2712M ▲ | | 2712T ▲ | |
| | 150 mm | | | | | 6703-9510 ■ | | | | 2812T ▲ | |
| 5.0 µm (Nom)/ | 36 mm | 6703-3611 ■ | | | | | | | | 2613T ▲ | |
| 10.0 µm (Abs) | 75 mm | | | 6703-7511 ■ | | 2713 ▲ | | | | 2713T ▲ | |
| | 150 mm | | | | | 2813 ▲ | | | | 2813T ▲ | |
| 10.0 µm (Nom)/ | 36 mm | 6703-3621 ■ | | | | | | | | 2614T ▲ | |
| 20.0 µm (Abs) | 75 mm | | | 6703-7521 ■ | | 2714 ▲ | | | | 2714T ▲ | |
| | 150 mm | | | | | 2814 ▲ | | | | 2814T ▲ | |
| HEPA CAP | | | | | | | | | | | |
| | 36 mm | 6702-3600 ■ | | | | | | | | 2609T ▲ | |
| | 75 mm | | | 6702-7500 ■ | | | | | | 2709T ▲ | |
| | 150 mm | | | | | | | | | 6702-9500 ■ | |
| Carbon Cap | | | | | | | | | | | |
| | 75 mm | | | 6704-7500 ■ | | | | | | 2022S ▲ | |
| | 150 mm | | | 6704-1500 ■ | | | | | | | |
| Polycap SPF | | | | | | | | | | | |
| 1.0 µm | 36 mm | 6705-3600 ■ | | | | | | | | | |
| | 75 mm | 6705-7500 ■ | | | | | | | | | |
| | 150 mm | | | | | 2820 ▲ | | | | | |
| Vacu-Guard | | | | | | | | | | | |
| PTFE | 150 mm Carbon | | | 6722-1001 ■ | | | | | | | |
| | 150 mm Desiccant | | | 6722-1002 ■ | | | | | | | |
| | 150 mm Mol Sieve | | | 6722-1003 ■ | | | | | | | |
| Polycap GW | | | | | | | | | | | |
| 0.45 µm PES | 75 mm | 6714-6004 ■ | | | | | | | | | |
| 1.0 µm Polypro | 75 mm | 6703-6010 ■ | | | | | | | | | |
| 5.0 µm Polypro | 75 mm | 6703-6050 ■ | | | | | | | | | |

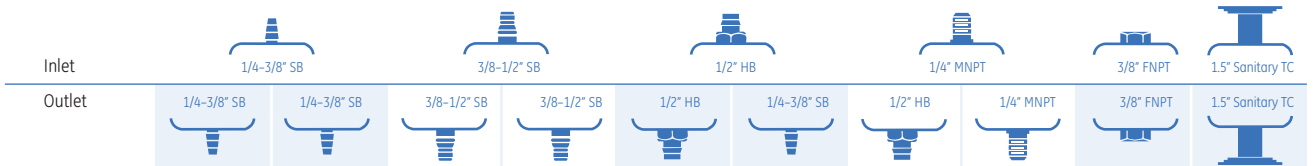
+ Indicates sterile products.

* Nominal rated at 90% removal efficiency; Absolute rated at 99% removal efficiency

■ 1 per pack

▲ 5 per pack

Part No. 2950 — capsule clamp also available as accessory



Polycap TC/PES

| | | | | | | | | | | |
|------------|---------------|--------------|--------------|----------|--|--------------|--|---------|--|-------------|
| 0.1 µm | 75 mm | 6714-7501+ ■ | | | | | | | | |
| | 150 mm | | 6717-9501+ ■ | | | | | | | |
| | 36 mm (bell) | 6715-3601+ ■ | | | | | | | | |
| | 75 mm (bell) | 6715-7501+ ■ | | | | | | | | |
| 0.2 µm | 36 mm | 6714-3602+ ■ | 6717-3602+ ■ | | | 2622NS ▲ | | | | |
| | 75 mm | 6714-7502+ ■ | 6716-3612+ ■ | 2742C+ ▲ | | | | 2742M ▲ | | |
| | 150 mm | | 6717-9502+ ■ | | | | | | | 6704-9502 ▲ |
| | 36 mm (bell) | 6715-3602+ ■ | | | | 6716-3602+ ■ | | | | |
| | 75 mm (bell) | 6715-7502+ ■ | | | | | | | | |
| | 150 mm (bell) | | 6718-9502+ ■ | | | | | | | |
| 0.8/0.2 µm | 36 mm (bell) | 6715-3682+ ■ | | | | | | | | |
| | 75 mm (bell) | 6715-7582+ ■ | | | | | | | | |
| | 150 mm (bell) | | 6718-9582+ ■ | | | | | | | |
| 0.45 µm | 36 mm | 6714-3604+ ■ | | | | | | | | |
| | 75 mm | 6714-7504+ ■ | 6717-7504+ ■ | | | | | | | |
| | 150 mm | | 6717-9504+ ■ | | | | | | | |
| | 36 mm (bell) | 6715-3604+ ■ | | | | | | | | |
| | 75 mm (bell) | | 6718-7504+ ■ | | | | | | | |
| 1.0 µm | 75 mm | | 6717-7510+ ■ | | | | | | | |
| | 150 mm | | 6717-9510+ ■ | | | | | | | |

Polycap AS

| | | | | | | | | | | |
|---------|--------------|--------------|--------------|--|--|--------------|--------------|--|---------|-------------|
| 0.2 µm | 36 mm | 6705-3602+ ■ | 6708-3602+ ■ | | | 6709-3602+ ■ | | | 2606T ▲ | |
| | 75 mm | 6705-7502+ ■ | 6708-7502+ ■ | | | | 6709-7502+ ■ | | 2706T ▲ | 6705-2705 ▲ |
| | 150 mm | | | | | 2806+ ▲ | | | 2806T ▲ | 2805+ ▲ |
| | 36 mm (bell) | 6706-3602+ ■ | | | | | | | | |
| | 75 mm (bell) | 6706-7502+ ■ | | | | | | | | |
| 0.45 µm | 36 mm | 6705-3604+ ■ | | | | | | | | |
| | | 2607NS ▲ | | | | | | | | |
| | 75 mm | 6705-7504+ ■ | 6708-7504+ ■ | | | 6709-7504+ ■ | | | | |
| | | 2707NS ▲ | | | | | | | | |
| 1.0 µm | 36 mm | 6705-3610+ ■ | | | | | | | | |
| | | 2608NS ▲ | | | | | | | | |
| | 75 mm | | 6705-7510+ ■ | | | | | | | |
| | 150 mm | | | | | 2808+ ▲ | | | | |

Polycap TF

| | | | | | | | | | | |
|---------|--------|-------------|-------------|--|--|-------------|--|---------|---------|---------|
| 0.05 µm | 75 mm | | | | | 6711-7505 ■ | | | | |
| 0.1 µm | 36 mm | | | | | 6711-3601 ■ | | | | |
| | 75 mm | 6700-7501 ■ | | | | | | 2700M ▲ | 2700T ▲ | |
| | 150 mm | | | | | | | | | 2800T ▲ |
| 0.2 µm | 36 mm | 6700-3602 ■ | | | | 6711-3602 ■ | | | | 2601T ▲ |
| | 75 mm | 6700-7502 ■ | 6710-7502 ■ | | | 6711-7502 ■ | | 2702M ▲ | 2702T ▲ | |
| | 150 mm | | | | | 2802 ▲ | | | 2802T ▲ | 2801 ▲ |
| 0.45 µm | 36 mm | | 6710-3604 ■ | | | 6711-3604 ■ | | | | 2602S ▲ |
| | 75 mm | 6700-7504 ■ | | | | 6711-7504 ■ | | | 2703T ▲ | |
| | 150 mm | | | | | | | | 2803T ▲ | |
| 1.0 µm | 36 mm | 6700-3610 ■ | | | | | | | | 2603T ▲ |
| | 75 mm | 6700-7510 ■ | 6701-7510 ■ | | | | | | | |
| | 150 mm | | | | | | | | 2804T ▲ | |

Flow rate charts¹

Polycap TC

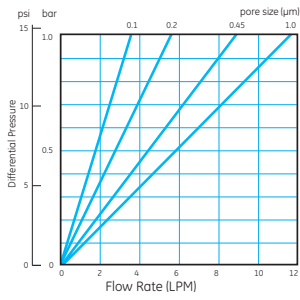


Fig 1. Water flow rates for Polycap TC 36 mm capsule.

Polycap TF²

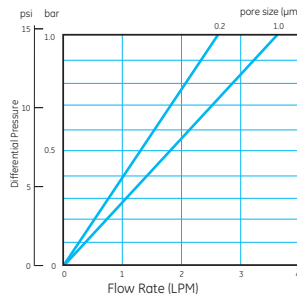


Fig 4. Water flow rates for Polycap TF 36 mm capsule.

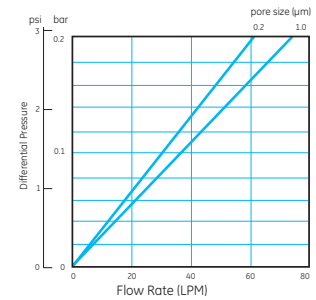


Fig 7. Air flow rates for Polycap TF 36 mm capsule.

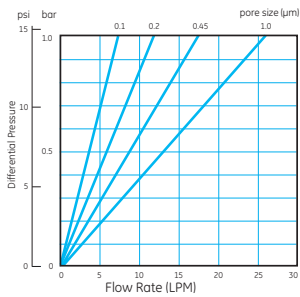


Fig 2. Water flow rates for Polycap TC 75 mm capsule.

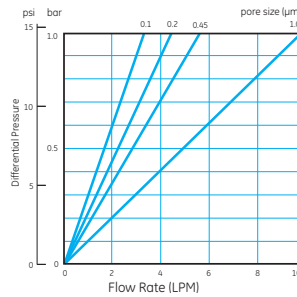


Fig 5. Water flow rates for Polycap TF 75 mm capsule.

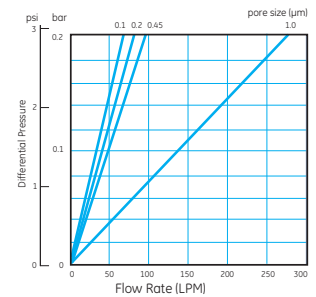


Fig 8. Air flow rates for Polycap TF 75 mm capsule.

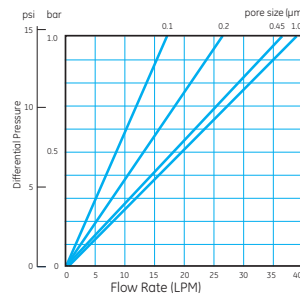


Fig 3. Water flow rates for Polycap TC 150 mm capsule.

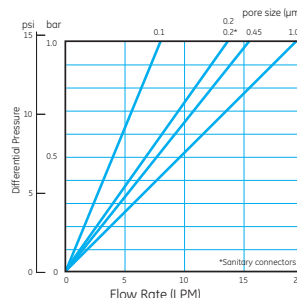


Fig 6. Water flow rates for Polycap TF 150 mm capsule.

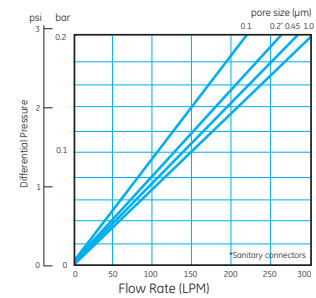


Fig 9. Air flow rates for Polycap TF 150 mm capsule.

- 1 Flow rates are indicative and vary by type of end fitting
- 2 Prewet with IPA
- 3 X-rated with 90% removal efficiency

Polycap AS

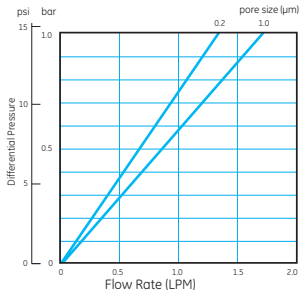


Fig 10. Water flow rates for Polycap AS 36 mm capsule.

Polycap HD³

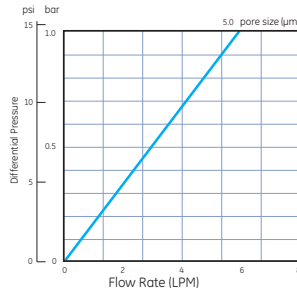


Fig 14. Water flow rates for Polycap HD 36 mm capsule.

HEPA-CAP

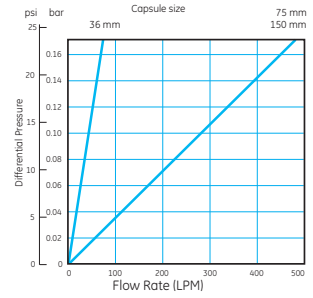


Fig 18. Air flow rates for HEPA-CAP capsules.

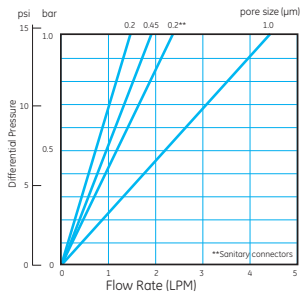


Fig 11. Water flow rates for Polycap AS 75 mm capsule.

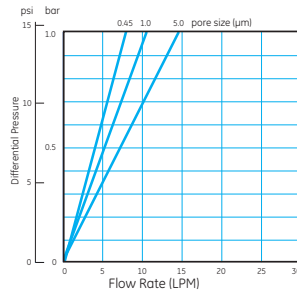


Fig 15. Water flow rates for Polycap HD 75 mm capsule.

VACU-GUARD 150

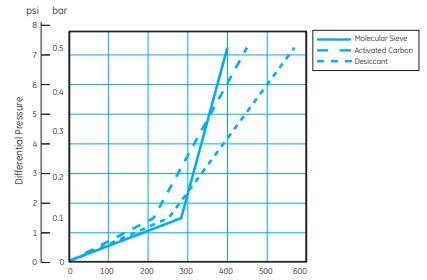


Fig 19. Air flow rates for VACU-GUARD 150 capsules.

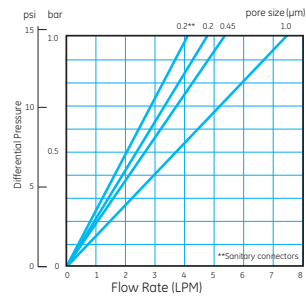


Fig 12. Water flow rates for Polycap AS 150 mm capsule.

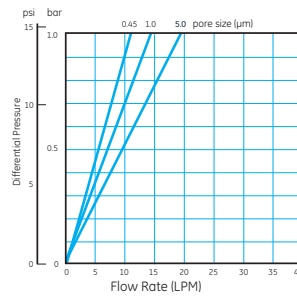


Fig 16. Water flow rates for Polycap HD 150 mm capsule.

Carbon Cap

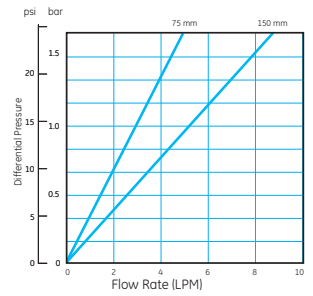


Fig 20. Water flow rates for Carbon Cap 75 mm and 150 mm capsules.

Polycap SPF

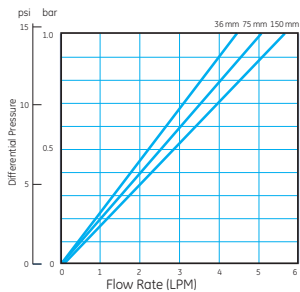


Fig 13. Water flow rates for Polycap SPF capsules.

PolyVENT/SteriVENT

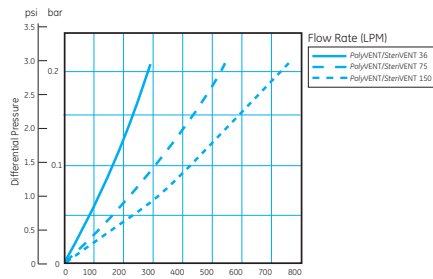


Fig 17. Air flow rates for PolyVENT/SteriVENT capsules.

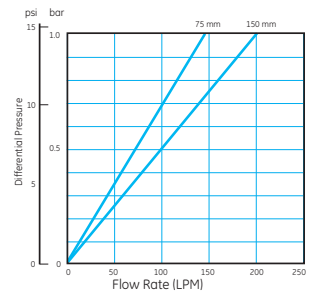


Fig 21. Air flow rates for Carbon Cap 75 mm and 150 mm capsules.

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First published April 2009

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GE Healthcare Bio-Sciences AB,
Björkgatan 30, 751 84 Uppsala, Sweden

GE Healthcare UK Limited, Amersham Place,
Little Chalfont, Buckinghamshire, HP7 9NA, UK

GE Healthcare Europe, GmbH, Munzinger Strasse 5,
D-79111 Freiburg, Germany

GE Healthcare Bio-Sciences Corp., 800 Centennial Avenue,
P.O. Box 1327, Piscataway, NJ 08855-1327, USA

GE Healthcare Bio-Sciences KK, Sanken Bldg., 3-25-1,
Hyakunincho, Shinjuku-ku, Tokyo 169-0073, Japan

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For further information, please visit
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Whatman International Limited
Springfield Mill, James Whatman Way
Maidstone, Kent
ME14 2LE, UK

www.gelifesciences.com/whatman



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