



**Sartorius Capsules –  
Filter for  
Wash Water Filtration  
in Hospitals**

## Sources of Contamination in Hospitals

Hospitals are environments in which a majority of the patients have weakened immune systems as a result of surgical, medicinal and other treatment measures. Therefore, special requirements are placed on hospital hygiene. Even higher standards of hygiene are called for in intensive care (ICU), transplantation and burn treatment units, premature baby wards and endoscopy units.

It is well-known that many nosocomial infections are caused by tap water used for the patients' personal hygiene – washing, showering, bathing, dental care – and to clean instruments. Properly treated tap water ensures the absence of certain organisms that have fecal and oral modes of transmission, such as *E. coli* and coliform bacteria. Other microorganisms found in tap water are not specifically mentioned in the drinking water regulations of many countries, but are able to proliferate in the warm water piping of hospital water systems.

The most well-known types of these pathogens are pseudomonads and legionella. The risk of contamination by other water-borne pathogens, such as mycobacteria, acetobacter, aeromonas, amoebas and flavobacteria has also been discussed in literature. In the case of pseudomonads and mycobacteria, infections are principally caused through skin lesions, e.g., wound infections – and inhalation of respirable aerosols. Further publications scientifically prove that both modes of transmission mentioned above also apply to legionella infections.

### Absolute Retention of Microorganisms

For hospital areas where higher standards of hygiene are required, the logical and efficient way to reduce the risk of water contamination is to sterile-filter potable and make-up water directly at the point of use such as taps, faucets and shower heads.

Thus, microorganisms from contaminated water can be absolutely retained.

### Literature

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## Sartorius Wash Water Capsules for Highest Hygiene Requirements

Capsules are ready-to-connect sterilizing filters for wash water filtration. The filtration system consists of a filter element with 1,000 cm<sup>2</sup> of effective filter area sealed in a polypropylene housing. The double-layer membranes of the filter elements have been successfully used for years in the pharmaceutical industry for sterile filtration of drugs. Capsules comply with the international HIMA guidelines for sterilizing filters, delivering a sterile filtrate after challenges with 10<sup>10</sup> *Brevundimonas diminuta* per Capsule. In-house studies show that the titer reductions obtained under actual-use conditions are substantially higher than the values specified by the HIMA. This margin of safety meets the stringent standards of hospital hygiene.

All components of the Capsules are bio-safe, meet the requirements of the current USP Class VI Plastics Tests and are FDA-listed.

### Regeneration and Testing

On the average, Sartorius Capsules withstand more than 40 autoclaving cycles at 121–134°C and contact times of 20–30 minutes.

To monitor the performance capability of the Capsule, a filter integrity test should be carried out using the Sartocheck Junior prior to each autoclaving cycle. This is an ideal means of documenting the performance capability of the filter after sterilization on a regular basis. A passed test guarantees the consistently high microbiological quality of water filtered during long-term service and the optimal usage of the filter's total throughput.

To minimize the risk of retrograde contamination by splashes of water or skin contact, we recommend that the filter be sterilized twice a week.

### Field-Proven Success

Wash Water Capsules can be easily installed on all standard water faucets, showerheads and bathtub faucets. The success of Sartorius Wash Water Filters under actual-use conditions is documented by several scientific reports written by well-known hygiene specialists. Today, the use of up to 200 filter installations has already become a part of routine hospital practice. Their range of applications covers high-risk areas, such as bone marrow transplant units, all the way to normal hospital bed wards in large clinics.

### Expert Consultation Service

Our product- and application specialists are ready to answer any questions you may have.

### Your Benefits

#### Safety

- Use of validated, reinforced cellulose acetate, sterilizing membranes with bacteria retention ratings that exceed the standard requirements to ensure high margins of safety
- Validated integrity tests

#### Economy

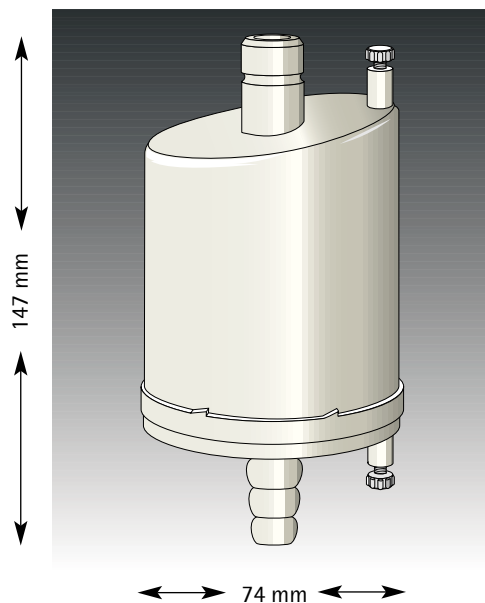
- Repeatedly autoclavable: > 40 cycles on average
- Complete filter units; you do not need to invest in stainless steel housings

#### Environmental compatibility

- Reusable product
- Made exclusively from easy-to-recycle plastics that can be incinerated without releasing hazardous pollutants

#### Total ease of installation

- Quick-connect couplings allow easy installation in just one step
- Universal connectors fit all standard water faucets, shower heads and bathtub faucets
- Easy to hold thanks to their light weight



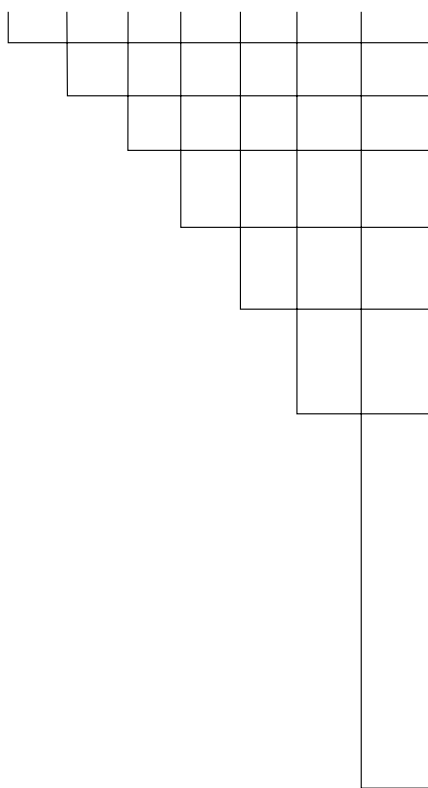
Sartorius Wash Water Capsule, type V0 (not drawn to scale)

## Technical Data

Construction	hydrophilic, heterogenous, double layer cellulose acetat membran
Pore size combination	0.45 µm + 0.2 µm
Filtration area	Height 7: 0.05 m <sup>2</sup> Height 8: 0.1 m <sup>2</sup>
Connector types	PQ, PO, VQ, VO, VZ
Max. allowable differential pressure	4 bar   60 psi at 20 °C 2 bar   30 psi at 80 °C
Max. allowable back pressure	2 bar   30 psi at 20 °C
Sterilization	Autoclaving (134 °C, 2 bar   14.5 psi, 30 min)
Autoclaving cycles	min. 25

## Ordering Information

523 13 07 H 7 -- PO -- B



### Sartorius Wash Water Capsule

### Construction Capsule

Pore size:  
07 - 0.2 µm finale membrane

Pore size combination:  
H - 0.45 µm + 0.2 µm

Height:  
7 - 0.05 m<sup>2</sup>  
8 - 0.1 m<sup>2</sup>

### Connectors:

PQ - Inlet: 6 mm quick-connect coupling  
Outlet: integrated PP - showerhead

PO - Inlet: 6 mm quick-connect coupling  
Outlet: Hose barb

VQ - Inlet: 8 mm quick-connect coupling  
Outlet: integrated PP - showerhead

VO - Inlet: 8 mm quick-connect coupling  
Outlet: Hose barb

VZ - Inlet: 8 mm quick-connect coupling  
Outlet: G ½ male thread for installation of a separate autoclavable showerhead

Pack size: B - 5 Pcs./Package

## Accessories

Couplings:	17712 - 8 mm quick-connect coupling without water stop 17773 - 8 mm quick-connect coupling with water stop
Separate showerhead:	17771 - autoclavable showerhead G ½ female thread
Adapters to attach the quick-connect couplings to taps or fittings of different thread sizes:	17747 - G ¾-female thread 17748 - G ½-female thread 17749 - M 22 × 1-female thread 17750 - G 1-female thread 17766 - M 24 × 1 male thread
Integrity testing:	16296---05 - fully automated intergity test unit Sartocheck Junior 17751 - Adapter Sartocheck   8 mm quick-connect coupling

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