



Medical

## Ultipor® 25 Filter With Monitoring Port



*Routine use of this device will protect the interior of the breathing system from patient-derived contamination, allowing extended use of the machine side of the breathing system when used with a Pall Ultipor™ Anesthesia Breathing Circuit System.\**

\*When used with a circuit other than the Pall Ultipor Anesthesia Breathing Circuit System, please refer to the breathing system manufacturer for information on whether the system being used has been validated for extended use. Please contact your local Pall representative for more detail.

### **Small volume breathing system filter for use in anesthesia**

- ▶ **Extends circuit life** – enables multiple patient reuse of the machine side of the Pall Ultipor Anesthesia Breathing Circuit System and the CO<sub>2</sub> monitoring line for up to 24 hours.
- ▶ **Reduces costs** – lowers patient treatment costs by permitting use of Pall circuits on multiple patients.
- ▶ **Effective barrier** – bidirectional, hydrophobic media provides protection against airborne and liquidborne bacteria, viruses, and particulate matter to 99.999% efficiency.
- ▶ **Low resistance** – unique pleated hydrophobic membrane assures low air flow resistance in dry and wet conditions.
- ▶ **Easy port seal** – tethered monitoring port cap prevents detachment from the filter and easily seals the port when not in use.

## Specifications

### Filter Medium

Ceramic bonded, pleated, hydrophobic filter media

### Airborne Bacterial/Viral Removal Efficiency

99.999%

### Liquidborne Bacterial/Viral/Prion Protein Retention Efficiency

100%

### Test Organisms/Substances\*\*

*Serratia marcescens* (0.45 µm)<sup>1</sup>

*Brevundimonas diminuta* (0.30 µm)<sup>2</sup>

*Mycobacterium tuberculosis*<sup>3</sup>

*Staphylococcus aureus*<sup>4</sup>

*Bacillus subtilis*<sup>5</sup>

MS-2 Bacteriophage (0.02 µm)<sup>2</sup>

Human Immunodeficiency Virus<sup>6</sup>

Hepatitis C Virus<sup>7</sup>

Allergenic natural rubber latex proteins<sup>8</sup>

Abnormal prion proteins<sup>9</sup>

### Weight

Dry Filter: approximately 26 g

### Housing

Transparent housing with a CO<sub>2</sub> monitoring port and tethered port cap

### Internal Volume

Filter: 35 mL

### Resistance

Approximately 3.6 cm H<sub>2</sub>O @ 60 L/min

### Usage

Single patient use for a maximum of 24 hours  
Discontinue use if resistance exceeds safe levels

### Inlet/Outlet Connections

Patient End: Coaxial 15 mm ID x 22 mm OD

Circuit End: 15 mm OD x 22 mm ID

\*\*Monodisbursed challenge using test organisms and particles of similar size.

## Performance Specifications

Vezina et al.<sup>10</sup> performed an *in vivo* evaluation of three brands of breathing filters for their ability to retain *Mycobacterium chelonae*. The following table illustrates the average mycobacterial retention capabilities of the three products:

**Table 1**

*Comparison of Three Brands of Breathing Filters for Retention of M. chelonae*

	Breathing Filter		
	Brand A	Brand B	Pall Ultipor® 25
Number of Filters Tested	5	6	10
Average Upstream <i>M. chelonae</i> Challenge (cfu) <sup>a</sup>	1 X 10 <sup>9</sup>	1.06 X 10 <sup>9</sup>	1.02 X 10 <sup>9</sup>
Average Downstream <i>M. chelonae</i> Recovery (cfu) <sup>b,c,d</sup>	2.77 X 10 <sup>4</sup>	6.42 X 10 <sup>3</sup>	0

### NOTES:

a. cfu = colony forming units

b. The lowest *M. chelonae* recovery in a single trial for Brand A was 7.5 X 10<sup>2</sup> cfu.

c. The lowest *M. chelonae* recovery in a single trial for Brand B was 6.0 X 10<sup>2</sup> cfu.

d. This study utilized *M. chelonae* challenges that were not monodispersed, resulting in titer reductions for the Pall Ultipor 25 filter that exceeded 10<sup>9</sup> cfu. A more stringent monodispersed microbial challenge of the Pall Ultipor 25 filter is customarily employed during filter performance characterization testing by Pall Corporation. This testing utilizes the method of Duberstein and Howard,<sup>11</sup> in which *Brevundimonas diminuta* and MS-2 bacteriophage yield 4-5 log titer reductions.

## Ordering Information

Product No.	Description	Packaging
BB25***	Ultipor® 25 Filter	50/case

\*\*\*All Pall BB25 filters are equipped with a gas monitoring port. More catheter mounts and connectors are available, please contact your local Pall representative for details.

## References

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9. Capewell A. Scientific and Laboratory Services Report Pall Europe 2004
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