PALL CORPORATION

Pall Ultipor® 50
Breathing System Filter

For Patient End or Machine End Applications

- Highly efficient pleated hydrophobic filter medium
- Validated for the Retention of SARS-CoV-2
- High efficiency retention of airborne bacterial and viral contamination
- 100 % retentive for liquid-borne contamination
- Compatible with drug nebulisation
- Simplified logistics due to possible application at patient end or at machine end
- Individually tested for integrity and efficiency before release

Product Features

High level of protection:
The Pall Ultipor 50 has been validated to retain aerosolized bacteria at > 99.999 % and viruses at > 99.995 % efficiency[1]. When challenged with the SARS-CoV-2 virus it showed a > 99.999 % retention efficiency[2]. Its hydrophobic filter medium is a 100 % barrier to liquid-borne contamination[3]. The Pall Ultipor 50 will therefore provide an outstanding level of protection against contamination and infection for patients, staff, equipment and the environment.

Versatile application:
When used at patient end in anaesthesia it is indicated for the prevention of cross infection via breathing systems. In this position it will protect breathing systems from patient derived contamination, allowing for their extended use in conjunction with a hospital protocol that ensures hygienic and mechanical integrity of the system.
The Ultipor 50 filter is also indicated for machine side use on anaesthesia and critical care ventilators, water bath humidifiers and other medical gas equipment (e.g. oxygen concentrators, nebulisers) where the connector fittings comply to ISO 5356-1. Under certain conditions of use in dry gases (e.g. when used in conjunction with a patient end HME), extended use beyond 24 h may be permitted.

Compatible with nebulisation:
Medications can be nebulized between the filter and the patient, protecting the expiratory breathing circuit limb and the expiratory parts of the ventilator against potentially harmful effects of drug aerosols.

Pall Total Quality and Performance Guarantee

Each Ultipor 50 Breathing System Filter is individually tested before production release for

Filter Integrity – Assuring housing and seal quality and intactness

Filtration Efficiency – Assuring filter media quality, performance and intactness by using a non-destructive test.

A Product Validation Certificate that is batch and customer specific can be provided to show details of testing and validation. This is the customer's guarantee of 100 % reliability, performance in use and assurance of protection of breathing systems and equipment, patients and staff.

Specifications

Filter medium:
Pleated hydrophobic filter medium

Filtration efficiency liquid-borne bacteria: 100 %[3]
Retention of SARS-CoV-2[2]: > 99.999 %

Bacterial retention efficiency[1]: > 99.999 %

Viral retention efficiency[1]: > 99.995 %

Filtration efficiency for NaCl particles tested as per ISO 23328-1[1]:

- > 99.96 % dry
- > 99.99 % after 24 h conditioning in humid gases

Resistance to airflow[4]:

Flow (L/min)	Filter flow resistance (cm H_2O) approx.	
	Unused - dry	Used 24h in humid gases
30	1.00	1.00
60	2.50	2.50
90	4.50	4.50

The Ultipor 50 keeps a low level of flow resistance over its entire life when tested in accordance with ISO 9360-1

Materials of Construction:
Transparent blue polypropylene housing
Pleated hydrophobic glass fibre medium
Thermoplastic polymer

Connectors (ISO 5356-1):
Patient end: 22 mm OD/15 mm ID
Machine end: 22 mm ID

Filter volume: approximately 50 mL
Filter weight: approximately 42 g

Recommended use:
24 hr change. Use may be extended if used in dry gases at **machine side**. Single patient use only at **patient side**.

Ordering Information

Reorder Code	Description	Packaging
U50	Ultipor 50 Breathing System Filter	50 filters/case, individually packed

References

1. Spiers S. Testing of the Pall Ultipor 50 for the retention of aerosolized bacteria and viruses and the penetration of NaCl particles to ISO 23328-1:2003. Pall SLS Technical Report 2021
2. Spiers S., Quarti C. Filtration Efficiency of the Pall Ultipor 50 for SARS-CoV-2. Pall SLS Technical Report 2021
3. Spiers S. Testing of the Pall Ultipor® 50 for hydrophobicity and liquid-borne bacterial retention. Pall SLS Technical Report 2021
4. Spiers S. Testing of the Pall Ultipor 50 to ISO 9360-1:2000: HME Pressure Drop, Leakage and Compliance. Pall SLS Technical Report 2021

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