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PRODUCT SPECIFICATIONS

Sterile Filtration

Thermo Scientific Nalgene Rapid-Flow PES Filter Units and Bottle Tops

Superior flow rates reduce downtime for cell culture applications

Thermo Scientific™ Nalgene™ Rapid-Flow™ PES Filters are highly retentive asymmetric PES filters designed to meet the exacting requirements of cell culture media and sera applications. The asymmetric PES filter membrane provides a dual zone (Figure 1) structure of higher porosity on the upstream zone of the membrane that acts like a pre-filter and lower porosity on the downstream zone of the membrane that provides retention at the pore size rating.

When combined with the proprietary Rapid-Flow multi-column membrane support system (Figure 2) the results are superior flow rates with minimal pressure drop, achieving particle specifications in less time and increasing productivity (Figure 3). Nalgene Rapid-Flow PES Filters are available in two configurations (complete filter unit and bottle top only) with retention ratings at 0.1, 0.2, and 0.45 μ m.



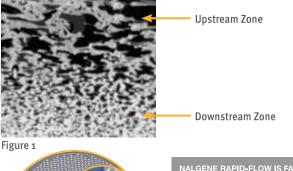
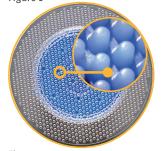


Figure 3



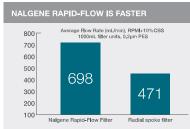


Figure 2

| Features | Benefits |
|--|--|
| Asymmetric Hydrophilic PES Filter Membrane | Dual porosity zone provides higher flow rates with minimal pressure drop No pre-wetting and filter flushing required Lowest protein binding and extractables |
| Proprietary Multi-Column Filter Support | Uniform support structure with consistent spacing across the membrane enables superior flow rates |
| Leak-Proof Screw Cap | Extends shelf life of filtered reagents by minimizing pH shift in the storage bottle |
| Certificate of Quality | Ensures product consistency and traceability |



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Only Nalgene has the unique Rapid-Flow™ membrane support system that uses an evenly-spaced array of columns to provide greater membrane stability - resulting in faster flow and higher throughput of fluids. With low protein binding and low extractables, Nalgene PES Filter Units offer the best choice for cell culture media, serum, additives and buffers.

| Description | Pore Size µm | Capacity mL | Membr. Diam. mm | Fits Bottle Neck Size | No. per pack / case | Catalog Number |
|--|--|-------------|-----------------|-----------------------|----------------------------------|----------------|
| The complete Nalgene Filter Unit system combines the Rapid Flow bottle top filter with built-in vacuum adapter and dust cover, attached to a | 0.1 used for sterile filtration and mycoplasma removal | 150 | 50 | 45 mm thread | Individually packed; 12 per case | 565-0010 |
| | | 250 | 50 | 45 mm thread | Individually packed; 12 per case | 568-0010 |
| | | 500 | 75 | 45 mm thread | Individually packed; 12 per case | 566-0010 |
| | | 1000 | 90 | 45 mm thread | Individually packed; 12 per case | 567-0010 |
| | 0.2 used for sterile filtration *Stem Cell Tested | 50 | 50 | conical tube | Individually packed; 12 per case | 564-0020 |
| | | 150 | 50 | 45 mm thread | Individually packed; 12 per case | 565-0020 |
| | | 250 | 50 | 45 mm thread | Individually packed; 12 per case | 568-0020 |
| eceiver bottle featuring | | 500 | 75 | 45 mm thread | Individually packed; 12 per case | 566-0020 |
| a wide-base for | | 500 | 90 | 45 mm thread | Individually packed; 12 per case | 569-0020 |
| mproved stability on he benchtop, and a | | 1000 | 90 | 45 mm thread | Individually packed; 12 per case | 567-0020 |
| eak proof cap which | | 150 | 50 | 45 mm thread | Individually packed; 12 per case | 165-0045 |
| maintains pH of stored | 0.45 used for clarification | 250 | 50 | 45 mm thread | Individually packed; 12 per case | 168-0045 |
| nedia better than the competition. | | 500 | 75 | 45 mm thread | Individually packed; 12 per case | 166-0045 |
| competition. | | | 90 | 45 mm thread | Individually packed; 12 per case | 169-0045 |
| | | 1000 | 90 | 45 mm thread | Individually packed; 12 per case | 167-0045 |
| | 0.2 used for sterile filtration *Stem Cell Tested | 150 | 50 | 33 mm thread | Individually packed; 12 per case | 596-3320 |
| | | | 50 | 45 mm thread | Individually packed; 12 per case | 596-4520 |
| The Nalgene PES Bottle Top Filters, with built-in vacuum adapter and dust cover can be used with narrow or wide mouth receiver bottles; 33 mm to 45 mm thread. | | 500 | 75 | 33 mm thread | Individually packed; 12 per case | 595-3320 |
| | | | 75 | 45 mm thread | Individually packed; 12 per case | 595-4520 |
| | | 1000 | 90 | 33 mm thread | Individually packed; 12 per case | 597-3320 |
| | | | 90 | 45 mm thread | Individually packed; 12 per case | 597-4520 |
| | 0.45 used for clarification | 150 | 50 | 33 mm thread | Individually packed; 12 per case | 296-3345 |
| | | | 50 | 45 mm thread | Individually packed; 12 per case | 296-4545 |
| | | 500 | 75 | 33 mm thread | Individually packed; 12 per case | 295-3345 |
| | | | 75 | 45 mm thread | Individually packed; 12 per case | 295-4545 |

^{*}Filtered media retains LIF growth factor, passes MEA testing and maintains normal growth and pluripotency of mouse embryonic stem cells

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|----------------------------|--|--------------------------|-----------------------|
| Filter Component | Materials of Construction | | |
| Membrane Material | Asymmetric Hydrophilic PES | | |
| Multi-Column Support | Virgin Polystyrene | | |
| Filter Bottle and Lid | Virgin Polystyrene | | E F |
| Screw Cap | Virgin HDPE (High Density Polyethylene) | | NALGENE® Rapid-Flow** |
| Dust Cover | Virgin Polystyrene | В | Hapteriow |
| Operating Information | Specification | | |
| Retention Ratings | 0.1, 0.2, 0.45 μm | | |
| Shelf Life | 5 year shelf life for all products EXCEPT 565-0010, 568-0010, 566-0010, and 567-0010 which currently are 2 years from Manufacturing Date | | |
| Sterilization | Gamma Irradation to per ISO 11137 | | |
| Product Testing | Certificate of Quality | | |
| | | | C — |

| III Cells | | | | |
|------------------------------------|-----------------------------|---------------|---------------|---------------|
| Filter Unit Dimensions | | | | |
| Capacity (mL) | 150 | 250 | 500 | 1000 |
| Membrane Dia. (mm) | 50 | 50 | 75/90 | 90 |
| A (Overall height mm) | 156 | 200 | 249 | 327 |
| B (Quick connect diameter mm) | 6.4/9.5 ID | 6.4/9.5 ID | 6.4/9.5 ID | 6.4/9.5 ID |
| C (Receiver bottle diameter mm) | 89 | 89 | 98 | 114 |
| Pore Size (µm) | available in 0.1; 0.2; 0.45 | | | |

Nalgene Filter Unit

Shown: 500 mL Nalgene Rapid Flow Filter Unit



