MicroFunnel™ Plus Filter Funnels

Revolutionize the way you monitor your water system and eliminate the risk of contamination with a combined filter funnel and sample cup.

- Product includes sample container and filter funnel all in one. No need to transfer sample from cup to disposable funnel and risk introducing contamination.
- MicroFunnel Plus AP unit allows aseptic collection of the sample through the lid sample port on the filter funnel. No need to remove lid.
- MicroFunnel Plus products with Supor® membrane are designed to allow sampling of hot water up to 90 °C.
- Vented lid snaps to a liquid-tight seal and allows filtration without having to open the funnel and risk introducing contamination.
- Vent filter ensures no airborne contamination is drawn into the funnel during filtration.
- Each unit is individually bagged and labeled for added assurance of sterility and lot traceability, including an over-pack bag to remove prior to entry into clean areas on our ST packs.
- Product attaches directly to a standard laboratory manifold or to an adapter on a stopper.
- Volume graduations are clearly marked for ease in measuring your sample volume.

Applications

Routine monitoring of water systems is a significant part of quality control. Any improvements you can make to your protocol can free up time, space, and money in a busy laboratory. The proven design of MicroFunnel filter funnels has been taken one step further to improve the efficiency of monitoring water systems with increased protection from contamination. Remove lid and collect water sample in the MicroFunnel Plus filter funnel and snap the vented lid to a liquid-tight seal for transporting the protected sample back to the laboratory. Or, with the MicroFunnel Plus AP, you can aseptically collect your sample by attaching the sterile sampling tube (sold separately, PN 4845) from the funnel directly to the sample port on a water line. The vented lid allows filtration without ever having to open the filter funnel.

These combined features reduce the supplies needed for water monitoring and, more importantly, eliminate steps that could potentially contaminate your sample.

A separate sample cup is no longer necessary for collection, and there is no need to transfer your sample into a disposable funnel for concentration. The vent filter prevents airborne contamination that could be drawn into the funnel during filtration.



- The MicroFunnel Plus and MicroFunnel Plus AP with 0.45 or 0.2 µm Supor membrane is designed for sampling hot water, such as found in hot loop WFI systems.
- Gridded 0.45 µm GN-6 Metricel® membrane is ideal for analysis of ambient water by Membrane Filter (MF) Technique.
- The MicroFunnel Plus filter funnel can be used to sample and test any liquid products, whether hot or cold, including water from any point in the production process, raw materials, intermediates, and final product.

Specifications

Membrane Selection

GN-6 Metricel membrane

A 0.45 µm mixed cellulose ester membrane ideal for use in most applications

Supor membrane

A 0.2 µm polyethersulfone membrane ideal for its low binding characteristics and superior retention of small organisms such as Pseudomonas sp

Metricel Black membrane

A 0.45 µm modified polyethersulfone membrane ideal for yeast and mold analysis or providing good contrast for light colored colonies

Materials of Construction

Filter Media

- GN-6 Metricel (mixed cellulose ester) membrane (PN 4807, 4829)
- Metricel Black (modified polyethersulfone) membrane, black (PN 4808, 4856)
- Supor (hydrophilic polyethersulfone) membrane, white (PN 4809, 4813, 4814, 4823, 4843, 4844, 4859, 4857, 4858, 4855)

Support Pad
Cellulose

Funnel and Base
Polypropylene

Adhesive Gasket
Urethane

Funnel Cover
Polyethylene

Lid and Base Vent Memebrane
Hydrophobic Versapor®
(acrylic copolymer on a non-woven support) membrane

Bag
Polyethylene

Adapter
Polyethylene

Lid Plug
Polypropylene (4856, 4855, 4844)

Base Plug
Polyethylene (4807, 4808)

Effective Filtration Area
13.46 cm^2

Dimensions
100 mL MicroFunnel
Height
7.6 cm (3.0 in) with cover (covers with AP port 8.7 cm, 3.4 in)

Diameter
6.1 cm (2.4 in) with cover

300 mL MicroFunnel
Height
8.9 cm (3.5 in) with cover (covers with AP port 9.8 cm, 3.8 in)

Diameter
8.7 cm (3.4 in) with cover

Maximum Vacuum
63.5 cm Hg (25 in Hg)
(Vacuum Use Only)

Maximum Sample Collection Temperature
PN 4807, 4856, 4808, 4829: Ambient
PN 4809, 4813, 4814, 4823, 4844, 4859, 4857, 4858, 4855: 90 °C (194 °F)

Funnel and Membrane Release Qualifications

Bag Seal Integrity
Inspected visually and integrity monitored during each manufacturing run

Dynamic Pressure
Lid: No leaks after 30 seconds @ 0.25 psi
Base: No leaks after 30 seconds @ base 1 psi

Diffusional Flow
<1.0 sccm @ 20” Hg vacuum

Biological Tests Growth Promotion
The MicroFunnel filter funnel demonstrate typical growth characteristics and colony formation when challenged with 100 CFU of the microorganisms listed below as directed per ISO 7704 and Standard Methods for Examination of Water and Wastewater.

GN-6 products (4807, 4856, 4829)
P. aeruginosa, ATCC 9027
3 days @ 30 – 35 °C
C. albicans, ATCC 10231
5 day @ 20 – 25 °C
C. sporogenes, ATCC 19404
3 days @ 30 – 35 °C
S. aureus, ATCC 6538
3 days @ 30 – 35 °C
A. brasiliensis, ATCC 16404
5 day @ 20 – 25 °C
B. subtilis, ATCC 6633
3 days @ 30 – 35 °C
E. coli, ATCC 8739
3 days @ 30 – 35 °C

0.2 and 0.45 µm Supor products (4809, 4823, 4859, 4844, 4813, 4857, 4814, 4858, 4855)
P. aeruginosa, ATCC 9027
3 days @ 30 – 35 °C
S. aureus, ATCC 6538
3 days @ 30 – 35 °C
C. albicans, ATCC 10231
5 day @ 20 – 25 °C

Metricel Black product (4808)
P. aeruginosa, ATCC 9027
3 days @ 30 – 35 °C
C. albicans, ATCC 10231
5 day @ 20 – 25 °C
S. aureus, ATCC 6538
3 days @ 30 – 35 °C
A. brasiliensis, ATCC 16404
5 day @ 20 – 25 °C
E. coli, ATCC 8739
3 days @ 30 – 35 °C

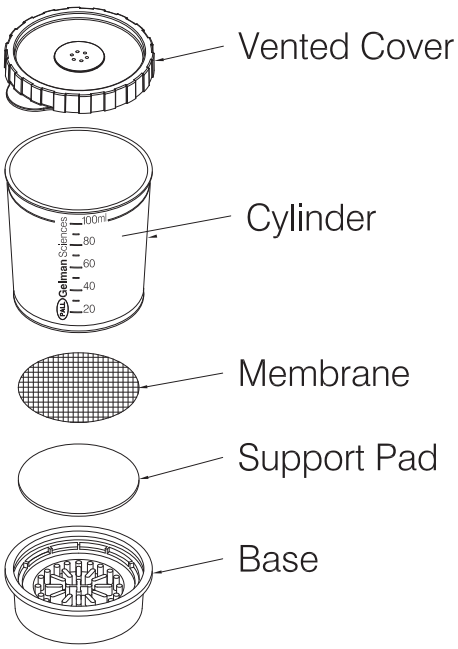
Certifications

Regulatory Qualifications
QA lot release criteria are monitored for compliance to ISO 7704 and Standard Methods for Examination of Water and Wastewater.
These products are manufactured in a Pall facility under a Quality Management System and Environmental Management program approved by an accredited registering body to ISO 9001 and ISO 14001, respectively.

Irradiation Details
Our membranes are provided non-sterile or gamma irradiated with a maximum dosage of 30 kGy. A Quarterly Dose Audit on the membrane product family is conducted to demonstrate continued effectiveness of the dose deliverance as required in ANSI/AAMI/ISO 11137-2.

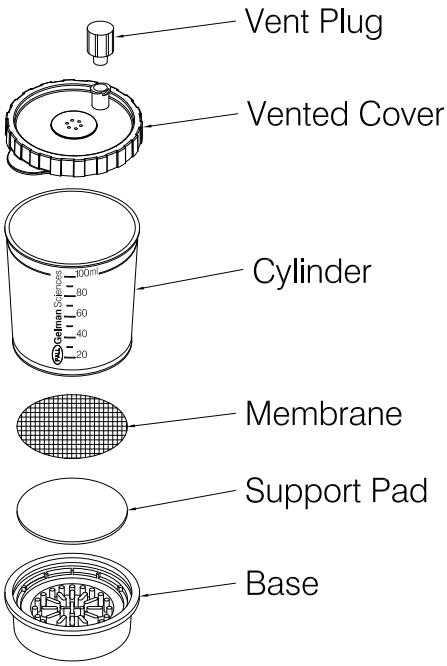
MicroFunnel Filter Funnel Component Diagrams

100 mL MicroFunnel Plus filter funnel



Part Number	Description
4807	0.45 µm GN-6, gridded
4809	0.2 µm Supor, gridded
4823	0.45 µm Supor, gridded
4808	0.45 µm Metricel Black, gridded

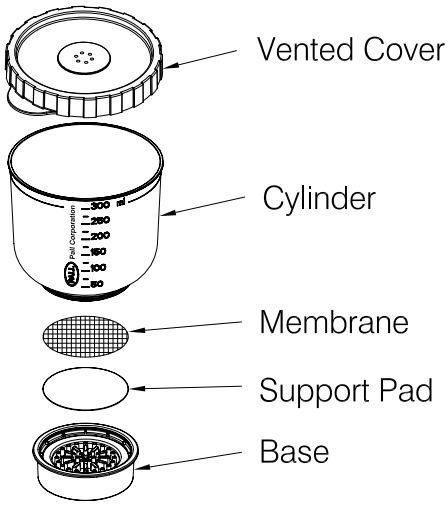
100 mL MicroFunnel Plus filter funnel with AP



Part Number	Description
4856	0.45 um GN-6, gridded
4859	0.45 um Supor, gridded*
4844	0.45 µm Supor, gridded

*ST packaging style with second layer packaging

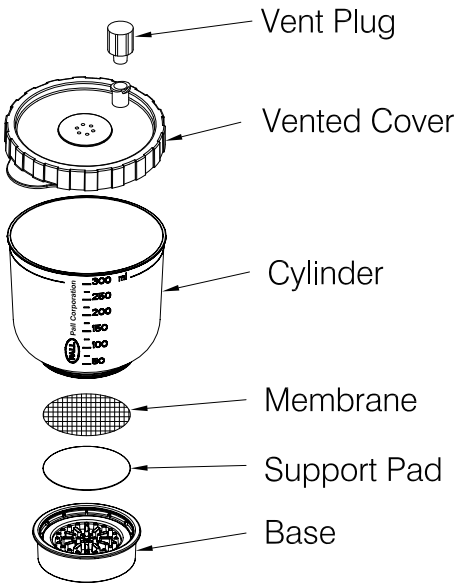
300 mL MicroFunnel Plus filter funnel



Part Number	Description
4829	0.45 µm GN-6, gridded
4813	0.2 µm Supor, gridded
4857	0.2 µm Supor, gridded*
4814	0.45 µm Supor, gridded
4858	0.45 µm Supor, gridded*

*ST packaging style with second layer packaging

300 mL MicroFunnel Plus filter funnel with AP



Part Number	Description
4855	0.45 µm Supor, gridded

Instructions for Use

Sampling Ambient Water Using the MicroFunnel Plus Filter Funnel



1. Carefully remove the vented lid and collect the sample.



2. Securely snap lid in place to prevent sample loss. Transport sample to laboratory for filtration.



3. Remove membrane vent from base, place funnel directly onto manifold, and filter the sample.



4. Gently grasp funnel then remove and discard lid.



5. Release cylinder from base by squeezing the midpoint of the cylinder.



6. Remove the membrane, plate the filter, and incubate.

Collecting Hot Water Samples Using the MicroFunnel Plus Filter Funnel



1. Place funnel into holder with graduations visible through the viewing slot. Carefully remove the vented lid and collect the hot water sample.



2. With funnel and holder resting on a firm, level surface, securely snap lid in place to prevent sample loss. Remove funnel from holder and transport sample to laboratory for filtration.

   (Proceed with steps 3-6 for ambient water.)

Note: When using this product for sampling hot water, observe safety precautions which include the use of insulated rubber gloves, safety glasses, and Pall Laboratory funnel holder (PN 4824 for 100 mL funnels and PN 4825 for 300 mL funnels).

Sample Collection Using the MicroFunnel Plus AP Filter Funnel



1. Remove the lid plug on the MicroFunnel Plus AP sample port. Open the sampling tube bag at one end and place the tube on the sample port.



2. Remove the sampling tube bag and connect the other end of the tube to the sanitized sample port.



3. After the sample is collected, remove the tube and replace the lid plug. Transport sample to laboratory for filtration.

(Proceed with steps 3-6 for ambient water.)

Ordering Information

100 mL Plus, including asceptic port option (AP)

Part Number	Description	Pkg
4807	0.45 µm GN-6 white gridded membrane, individually bagged, gamma irradiated	50/pkg
4856	0.45 µm GN-6 white gridded membrane, individually bagged, gamma irradiated, with aseptic port	50/pkg
4809	0.2 µm Supor white gridded membrane, individually bagged, gamma irradiated	50/pkg
4823	0.45 µm Supor white gridded membrane, individually bagged, gamma irradiated	50/pkg
4859	0.45 µm Supor white gridded membrane, individually bagged with ST overpack, gamma irradiated	40/pkg*
4808	0.45 µm Metricel black gridded membrane, individually bagged, gamma irradiated	50/pkg
4844	0.45 µm Supor white gridded membrane, individually bagged, gamma irradiated, with aseptic port	50/pkg

300 mL Plus, including asceptic port option (AP) and overpack options (ST)

Part Number	Description	Pkg
4829	0.45 µm GN-6 white gridded membrane, individually bagged, gamma irradiated	20/pkg
4813	0.2 µm Supor white gridded membrane, individually bagged, gamma irradiated	20/pkg
4857	0.2 µm Supor white gridded membrane, individually bagged with ST overpack, gamma irradiated	20/pkg**
4814	0.45 µm Supor white gridded membrane, individually bagged, gamma irradiated	20/pkg
4858	0.45 µm Supor white gridded membrane, individually bagged with ST overpack, gamma irradiated	20/pkg**
4855	0.45 µm Supor white gridded membrane, individually bagged, gamma irradiated with aseptic port	20/pkg

Accessories

Part Number	Description	Pkg
4824	MicroFunnel Plus 100 mL filter funnel holder for hot water applications	1/pkg
4825	MicroFunnel Plus 300 mL filter funnel holder for hot water applications	1/pkg
4845	MicroFunnel Plus filter funnel AP sample tubing, individually bagged, gamma irradiated	50/pkg

* 100 mL funnels (40 units total per box): 10 individually bagged funnels within an overpack bag, 4 overpack bags per box.

** 300 mL funnels (20 units total per box): 5 individually bagged funnels within an overpack bag, 4 overpack bags per box.

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The information provided in this literature was reviewed for accuracy at the time of publication. Product data may be subject to change without notice. For current information consult your local Pall distributor or contact Pall directly.

IF APPLICABLE Please contact Pall Corporation to verify that the product conforms to your national legislation and/or regional regulatory requirements for water and food contact use.

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