

The Katadyn BeFree Water Filter Series. Ultralight and Fast Water Filtration.

KATADYN GROUP
SWITZERLAND

Product Information File



 **KATADYN**[®]
MAKING WATER DRINKING WATER

Scan QR code or click [here](#) to view a video of the Katadyn BeFree Filter



V5 / Sep 2018

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1 Company Profile

1.1 Katadyn Group

The Switzerland based Katadyn Group is a global company with the vision of making good things better. With its broad brand portfolio, the group delivers products and solutions for the outdoor and marine industries as well as for industrial and municipal needs. Its diverse product portfolio ranges from freeze-dried specialty meals and outdoor cooking gear to mobile and land-based water desalination systems as well as specialized disinfection systems for industrial needs. Due to very high quality- and reliability standards, expeditions, humanitarian aid- and military organizations across the globe have been regular and satisfied customers of the Katadyn group for years.

Katadyn helps

Economic success is important but for Katadyn there are always other values beyond business. This is why Katadyn is serious about supporting social and environmental projects that support children and youth or help protect the environment - Katadyn helps out of conviction and not for image. For further information please visit us at www.katadyngroup.com / Katadyn Group / Katadyn helps.

Our Brands

Katadyn and Micropur

Mobile water purification systems
Chlorine and silver-based chemical disinfectants



Optimus

Expedition cookware and outdoor stoves



Trek'n Eat

Freeze-dried outdoor and expedition food
Emergency preparedness food (Europe)



Spectra Watermakers

Desalination systems
(marine and land-based, hand-operated and electrically powered)



AlpineAire Foods and Gourmet Reserves

Freeze-dried outdoor and expedition food
Emergency preparedness food (USA)



PharmaVoyage

Travel products and first aid kits (France)



Certisil, Certinox, Certiman

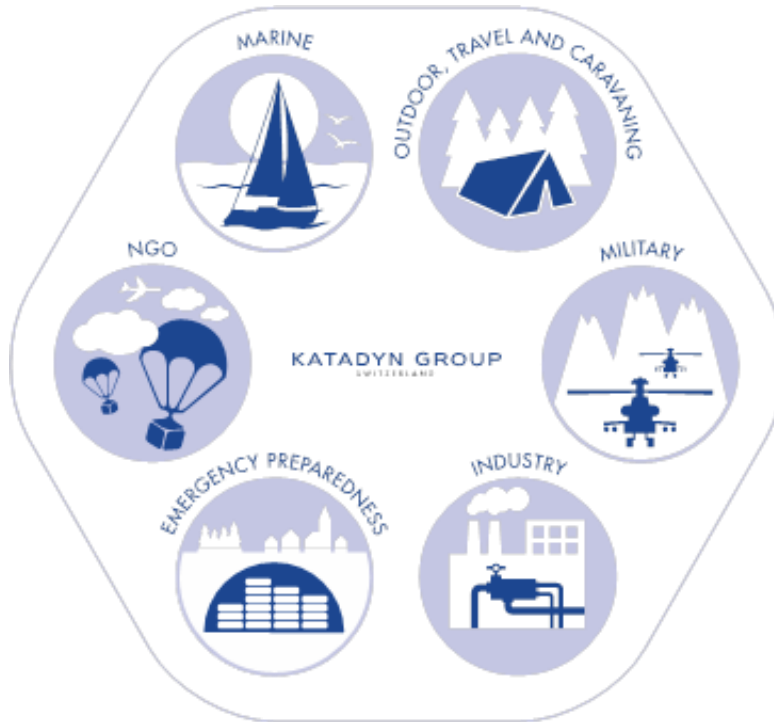
Drinking water hygiene, water tank cleaning, and
vehicle care for caravanning (Germany)



Global presence



User communities we serve:



KATADYN GROUP
SWITZERLAND

KATADYN® OPTIMUS TREK'N EAT ALPINEAIRE! EMERGENCY FOOD
SteriPEN® SPECTRA WATERMAKERS MICROPUR® pharmavoyage certisil

1.2 Quality Management

At Katadyn in Switzerland we build the world’s best portable filtration systems, backed by a comprehensive warranty and an extremely low failure rate. Our customer service is unrivalled in the market, and we diligently work to keep customers satisfied. We are proud of the high quality systems that we provide and meticulously check each filter we manufacture for proper operation and any material defects.

Following the Kaizen philosophy, we embrace a culture of continuous improvement and pride ourselves on our ability to critically evaluate our manufactured equipment, policies and procedures. We strive for incremental improvements to our business, with customer satisfaction and the creation of customer value at the forefront of our focus.

Our quality management system is composed of several steps:

- Raw materials quality inspection. Each component is machined to a tight set of tolerances that are checked during assembly to confirm proper fit and to ensure they are within specified tolerances.
- Individual component testing. Every Katadyn BeFree filter element is tested independently by a particle challenge with a laser counter before being built into the filter housing. After final assembly of the filters, the connecting glue is tested on each filter. 100% of all incoming softflasks have to pass a leakage test before final assembly.



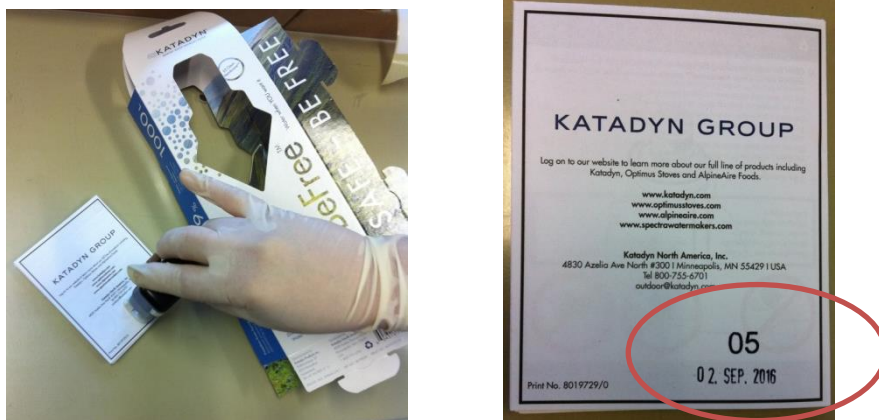
Picture 1: Particle challenge test of hollow fiber bundles with laser counter for accurate results.



Picture 2: Burst test of softflask with pressurized air to eliminate potential leakage.

- Customer complaints and feedback evaluation. Policies, procedures, and communications are all investigated to determine the best course of action.
- Component failure evaluation. Should a component fail in operation under normal use conditions, an analysis of the failed component is performed, when possible, to determine if an engineering change should be implemented to prevent future failures.
- Supplier evaluation and quality monitoring. Suppliers are regularly evaluated for quality of incoming parts and materials. Feedback on components failing to meet specifications is sent back to suppliers for evaluation and corrective action on an as-needed basis.
- One piece flow production. The final assembly of each product is done in one workflow by highly trained and skilled employees. Subassemblies are not passed on to the next workstation. As a result, our employees take ownership of the final product they produce. That in turn has a positive effect on our overall quality levels.
- Personal commitment and pride in the final product. At the end of the assembly line, every finished product is stamped on the backside of the manual insert by the assembler him- or herself with his or her employee identification number and the production date.

The quality of our products, communications and our customers` satisfaction are everyone`s responsibility, and it is a common goal for the entire organization.



Picture 3: Identification stamp on final product. This ensures traceability and personal commitment of our workforce.

2 Product File

2.1 Product Description BeFree Filter

Unique Product Features in a Nutshell



The EZ (=Easy) Clean Membrane filter cartridge



Product Description

The Katadyn BeFree is the most compact, lightweight and versatile personal water filter in the Katadyn portfolio. It can be used for 3 different purposes:

1. Fill & drink straight from the filter:

It provides practically instant safe drinking water to rehydrate in the field. After drinking, the empty softflask can be folded up until the next water source is encountered. When weight and pack size are a concern, this option offers the highest flexibility.

2. Use as a reservoir & drink later:

The integrated 0.6L Hydrapak softflask can be filled up and used as a water reservoir for short-term hydration management in the field. When rehydration is needed, 0.6L of safe drinking water is available instantly to the user.

3. Filter & fill additional reservoirs:

With its very simple operation and high flow rate it operates faster than any pump filter or chemical filtration device. Therefore, it can be used to filter and fill water into larger water containers for mid-term hydration management in the field.

This represents a truly **versatile 3 in 1 solution**, that reliably serves in military- and backcountry uses as well as in emergency cases.

The use of the Katadyn BeFree is simple and intuitive:

Fill up the flask (1), insert the filter cartridge (2) and filter straight from the flask by squeezing the water through the filter membrane into the mouthpiece (3).

1. Easy filling of softflask through 42mm wide bottleneck



2. Screw on filter cartridge



3. Filter by squeezing water through filter



With the EZ- Clean Membrane, field maintenance is very simple and ensures a long lifetime of up to 1000L for the system. Just fill the flask with water (also works with contaminated water), insert the filter cartridge and shake the entire unit. Alternatively, the filter can be removed and gently swished in any lake, river or stream. By doing so, any debris is washed off the membranes and the filter is ready to be used again. Backflushing is not necessary.



The BeFree utilizes extra durable hollow fiber membranes, which remove bacteria, protozoa and other disease- causing agents with particles greater than 0.1 microns (pore size: 0.0001mm). The result is safe and clear drinking water.

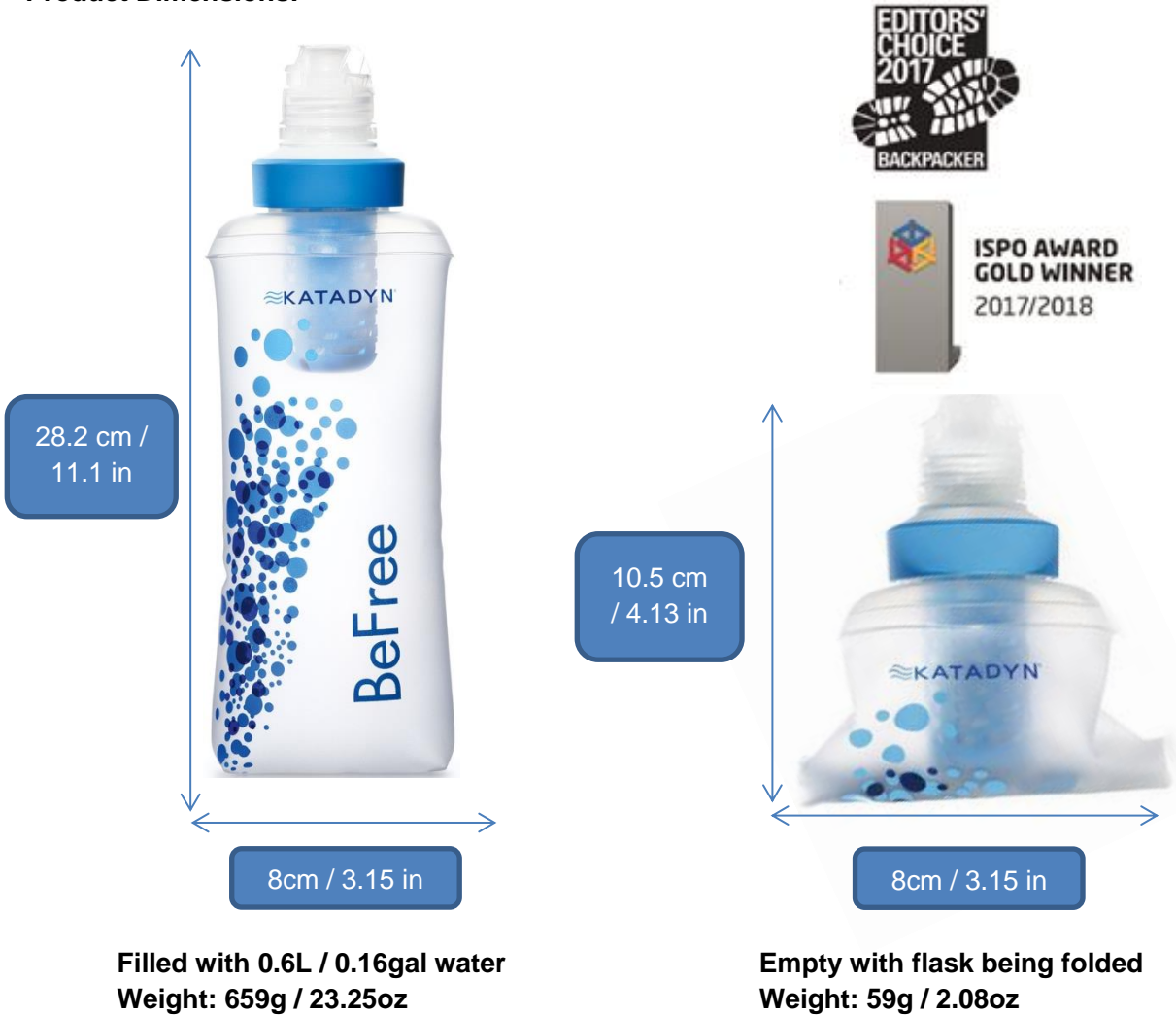
If in doubt, the user can instantly check whether the system is still functioning by means of a very simple and quick integrity test.

Developed and assembled in Switzerland, the Katadyn BeFree is made of top-quality, durable materials, that makes it long lasting and reliable also in rough conditions. Thus, we offer a 2 year guarantee on this product.

Furthermore, like with any Katadyn product, you can rely on our renowned customer service and support, with real experts available by phone or email.

2.2 Technical Specifications Katadyn BeFree 0.6L Filter

Product Dimensions:




Ideal for:

- Military
- Emergency Preparedness
- NGO's
- Recreation
- Expeditions



Subject	Specification
Technology	Hand-operated squeeze filter flask
Filter Media	Hollow Fibers EZ-Clean Membrane
Filter Cartridge	Interchangeable filter cartridge with ergonomic proof mouthpiece and dust cap
Pore Size	0.1 Microns (0.0001 mm)
Effective against	<ul style="list-style-type: none"> • Particles & Sediments • Protozoa (Giardia, Cryptosporidium) min. 99.9% • Bacteria (Klebsiella) min. 99.9999% • Cysts
Life-time filter element	Up to 1000L / 264 gal
Output	Up to 2L / 0.52 gal per minute
Weight	59g / 2.08oz
Dimensions	8 x 8 x 28.2 cm / 3.15 x 3.15 x 11.1 in
Operation	Hand-operated / no batteries or other energy source required
Storage Temperature	<ul style="list-style-type: none"> • +4°C - +65°C
Material	<ul style="list-style-type: none"> • Food grade materials, 100% PVC and BPA free • TPU flask • Hollow fibers (Polysulfane)
Color	<ul style="list-style-type: none"> • Blue and transparent • Other options available
Accessories	<ul style="list-style-type: none"> • Hydrapak® softflask, • EZ-Clean Membrane replacement with integrated mouthpiece
Maintenance	<ul style="list-style-type: none"> • Field cleanable (swish or shake – no backflushing needed) • Integral filter replacement test • No tools necessary
Capacity	0.6L / 0.16 gal – collapsible flask, for one person
Tropical Use	Proven reliability in extremely hot and humid conditions
Guarantee	2 years

Fact Sheet BeFree 0.6L:



FACT SHEET

KATADYN BEFREE WATER FILTRATION SYSTEM 0.6L - ultralight filter for urban adventures

PRODUCT CHARACTERISTICS

Technology: Hollow fiber filter; 0.1 micron (0.0001 mm)
EZ-Clean Membrane™

Effect: Removes bacteria, cysts and sediment

Output: Up to 2 l/min

Capacity: Up to 1,000 l depending on water quality

Weight: Approx. 59 g

Dimensions: 7 x 7 x 27,5 cm


Guarantee: 2 years



Material: EZ-Clean Membrane™ with Hollow Fibers
Hydrapak® SoftFlask™ made of TPU (thermoplastic polyurethane), 100% PVC and BPA free

Accessories: Hydrapak® SoftFlask™, EZ-Clean Membrane™

Article No.: 8019946 Katadyn BeFree 0.6L

Series: Ultralight



FACTS

- Compact and ultralight hollow fiber filter that only weighs 59 g.
- The collapsible flask packs small to fit into tight spaces such as running shorts, cycling jerseys, paddling or fishing vests.
- The Katadyn BeFree™ 0.6L removes bacteria, cysts and sediment with its pore size of 0.1 micron (0.0001 mm).
- Easily clean the EZ-Clean Membrane™ by simply shaking or swishing. No backflushing or tools necessary.

PRODUCT CHARACTERISTICS > BENEFITS

- Fast flowrate of up to 2 liters per minute
- Easy cleaning > by shaking or swishing
- Collapsible flask > minimum weight and space requirement
- EZ-Clean Membrane™ made of hollow fibers

SHORT PROFILE

Compact and ultralight filter with fast flowrate. For one person. Ideal for city trips, trailrunning, biking, hiking.

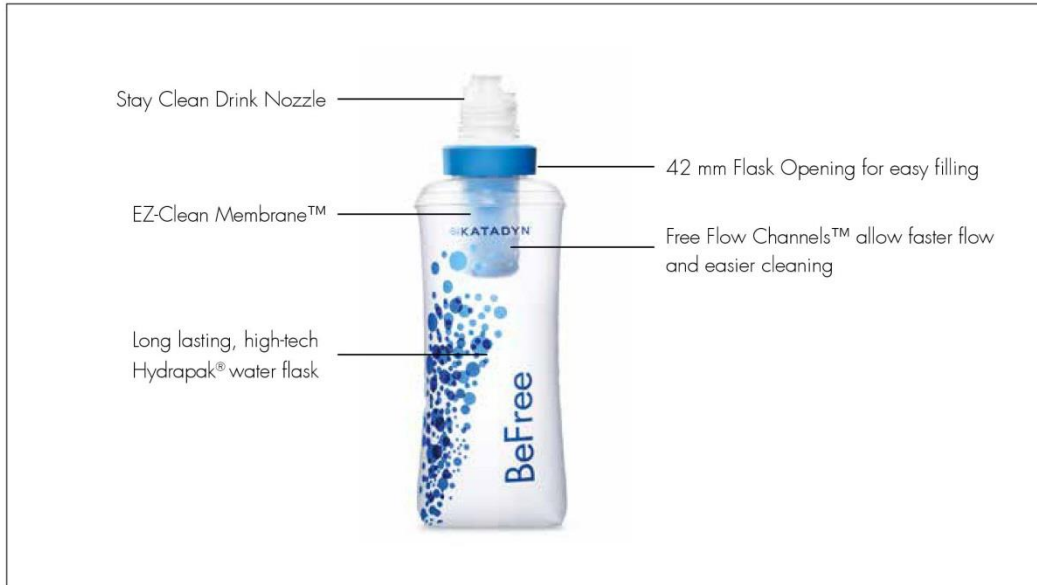
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FACT SHEET

KATADYN BEFREE WATER FILTRATION SYSTEM 0.6L - ultralight filter for urban adventures

DETAILED VIEW



For details on spare parts, please contact your Katadyn dealer.

TESTS

Bachema AG, Switzerland, 05.04.2016 - Escherichia coli, Enterokokken, Pseudomonas aeruginosa

Katadyn reserves the right to modify product characteristics

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2.3 Technical Specifications Katadyn BeFree 1.0L Filter

Product Dimensions:



**Filled with 1.0L / 0.26gal water
Weight: 1063g / 37.49oz**

**Empty with flask being folded
Weight: 63g / 2.22oz**


Ideal for:

- Military
- Emergency Preparedness
- NGO's
- Recreation
- Expeditions



Subject	Specification
Technology	Hand-operated squeeze filter flask
Filter Media	Hollow Fibers EZ-Clean Membrane
Filter Cartridge	Interchangeable filter cartridge with ergonomic proof mouthpiece and dust cap
Pore Size	0.1 Microns (0.0001 mm)
Effective against	<ul style="list-style-type: none"> • Particles & Sediments • Protozoa (Giardia, Cryptosporidium) min. 99.9% • Bacteria (Klebsiella) min. 99.9999% • Cysts
Life-time filter element	Up to 1000L / 264 gal
Output	Up to 2L / 0.52 gal per minute
Weight	63g / 2.22oz
Dimensions	8 x 6.5 x 26.5 cm / 3.15 x 2.7 x 10.3 in
Operation	Hand-operated / no batteries or other energy source required
Storage Temperature	<ul style="list-style-type: none"> • +4°C - +65°C
Material	<ul style="list-style-type: none"> • Food grade materials, 100% PVC and BPA free • TPU flask • Hollow fibers (Polysulfane)
Color	<ul style="list-style-type: none"> • Blue and transparent • Other options available
Accessories	<ul style="list-style-type: none"> • Hydrapak® softflask, • EZ-Clean Membrane replacement with integrated mouthpiece
Maintenance	<ul style="list-style-type: none"> • Field cleanable (swish or shake – no backflushing needed) • Integral filter replacement test • No tools necessary
Capacity	1.0L / 0.26 gal – collapsible flask, for one person
Tropical Use	Proven reliability in extremely hot and humid conditions
Guarantee	2 years

Fact Sheet BeFree 1.0L:



KATADYN[®]
MAKING WATER DRINKING WATER

FACT SHEET

KATADYN BEFREE WATER FILTRATION SYSTEM 1.0L - ultralight and fast water filtration

PRODUCT CHARACTERISTICS

Technology: Hollow fiber filter; 0.1 micron (0.0001 mm)
EZ-Clean Membrane™

Effect: Removes bacteria, cysts and sediment

Output: Up to 2 l/min

Capacity: Up to 1,000 l depending on water quality

Weight: Approx. 63 g


Dimensions: 26,5 x 8 x 6,5 cm

Guarantee: 2 years


Material: EZ-Clean Membrane™ with Hollow Fibers
Hydrapak® SoftFlask™ made of TPU (thermoplastic polyurethane), 100% PVC and BPA free


Accessories: Hydrapak® SoftFlask™ 1.0L, EZ-Clean Membrane™

Article No.: 8018007 Katadyn BeFree 1.0L



Series: Ultralight





FACTS

- Compact and ultralight hollow fiber filter that only weighs 63 g.
- The collapsible flask packs small to fit into tight spaces such as running shorts, cycling jerseys, paddling or fishing vests.
- The Katadyn BeFree™ 1.0L removes bacteria, cysts and sediment with its pore size of 0.1 micron (0.0001 mm).
- Easily clean the EZ-Clean Membrane™ by simply shaking or swishing. No backflushing or tools necessary.

PRODUCT CHARACTERISTICS > BENEFITS

- Fast flowrate of up to 2 liters per minute
- Easy cleaning > by shaking or swishing
- Collapsible flask > minimum weight and space requirement
- EZ-Clean Membrane™ made of hollow fibers

SHORT PROFILE

Compact and ultralight filter with fast flowrate.
For 1 - 2 people. Ideal for traveling, hiking.

1



FACT SHEET

KATADYN BEFREE WATER FILTRATION SYSTEM 1.0L - ultralight and fast water filtration

DETAILED VIEW



For details on spare parts, please contact your Katadyn dealer.

TESTS

Bachema AG, Switzerland, 05.04.2016 - Escherichia coli, Enterokokken, Pseudomonas aeruginosa

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2.4 Technical Specifications Katadyn BeFree 3.0L Filter

Product Dimensions:



Filled with 3.0L / 0.79gal water
Weight: 3100g / 109.4oz

Empty with flask being folded
Weight: 100g / 3.5oz

Ideal for:

- Military
- Emergency Preparedness
- NGO's
- Recreation
- Expeditions



Subject	Specification
Technology	gravity powered or hand-operated squeeze filter reservoir
Filter Media	Hollow Fibers EZ-Clean Membrane
Filter Cartridge	Interchangeable filter cartridge with ergonomic proof mouthpiece and dust cap
Pore Size	0.1 Microns (0.0001 mm)
Effective against	<ul style="list-style-type: none"> • Particles & Sediments • Protozoa (Giardia, Cryptosporidium) min. 99.9% • Bacteria (Klebsiella) min. 99.9999% • Cysts
Life-time filter element	Up to 1000L / 264 gal
Output	Up to 2L / 0.52 gal per minute
Weight	100g / 3.5oz
Dimensions	44.7 x 23 x 7.5 cm / 29.5 x 17.3 x 9 in
Operation	Hand-operated / no batteries or other energy source required
Storage Temperature	<ul style="list-style-type: none"> • +4°C - +65°C
Material	<ul style="list-style-type: none"> • Food grade materials, 100% PVC and BPA free • TPU flask • Hollow fibers (Polysulfane)
Color	<ul style="list-style-type: none"> • Blue and transparent • Other options available
Accessories	<ul style="list-style-type: none"> • Hydrapak® softflask • EZ-Clean Membrane replacement with integrated mouthpiece
Maintenance	<ul style="list-style-type: none"> • Field cleanable (swish or shake – no backflushing needed) • Integral filter replacement test • No tools necessary
Capacity	3.0L / 0.79 gal – collapsible flask, for one person
Tropical Use	Proven reliability in extremely hot and humid conditions
Guarantee	2 years

Fact Sheet BeFree 3.0L:



KATADYN®
MAKING WATER DRINKING WATER

FACT SHEET

KATADYN BEFREE WATER FILTRATION SYSTEM 3.0L - ultralight and fast water filtration

PRODUCT CHARACTERISTICS

Technology: Hollow fiber filter; 0.1 micron (0.0001 mm)
EZ-Clean Membrane™

Effect: Removes bacteria, cysts and sediment

Output: Up to 2 l/min

Capacity: Up to 1,000 l depending on water quality

Weight: Approx. 100 g

Dimensions: 44,7 x 23 x 7,5 cm

Guarantee: 2 years

Material: EZ-Clean Membrane™ with Hollow Fibers
Hydrapak® SoftFlask™ made of TPU (thermoplastic polyurethane), 100% PVC and BPA free

Accessories: Hydrapak® SoftFlask™ 3.0L, EZ-Clean Membrane™

Article No.: 8018008 Katadyn BeFree 3.0L



Series: Ultralight





FACTS

- Compact and ultralight hollow fiber filter that only weighs 100 g.
- Collapsible flask packs small to fit into tight spaces.
- Thanks to the handy grip, the Katadyn BeFree™ 3.0L can be carried easily or hung on a nearby tree once full.
- The integrated bail handle on the nozzle simplifies filling.
- The Katadyn BeFree™ 3.0L removes bacteria, cysts and sediment with its pore size of 0.1 micron (0.0001 mm).
- Easily clean the EZ-Clean Membrane™ by simply shaking or swishing. No backflushing or tools necessary.

PRODUCT CHARACTERISTICS > BENEFITS

- Fast flowrate of up to 2 liters per minute
- Easy cleaning > by shaking or swishing
- Collapsible flask > minimum weight and space requirement
- Handy grip > easy carrying
- Bail handle > simplifies filling
- EZ-Clean Membrane™ made of hollow fibers

SHORT PROFILE

Compact and ultralight filter with fast flowrate. For 1 - 5 people. Ideal for families, hiking, camping.

1



FACT SHEET

KATADYN BEFREE WATER FILTRATION SYSTEM 3.0L - ultralight and fast water filtration

DETAILED VIEW



For details on spare parts, please contact your Katadyn dealer.

TESTS

Bachema AG, Switzerland, 05.04.2016 - Escherichia coli, Enterokokken, Pseudomonas aeruginosa

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2.5 Product Accessories

Replacement Filter Cartridge – Includes mouthpiece and dust cap
Article number: 8019641



Weight: 34.5g / 1.23oz

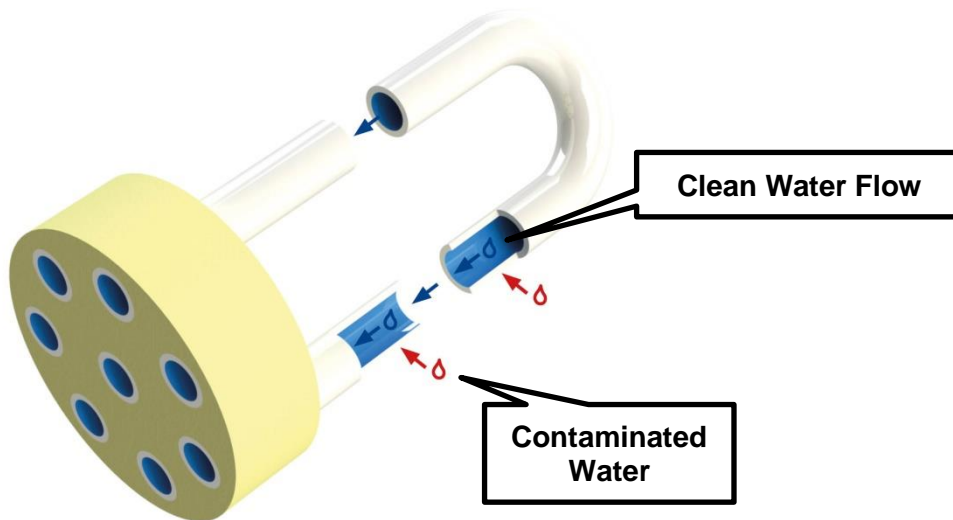


2.6 Technology Insight: Hollow Fiber Filtration and EZ-Clean System

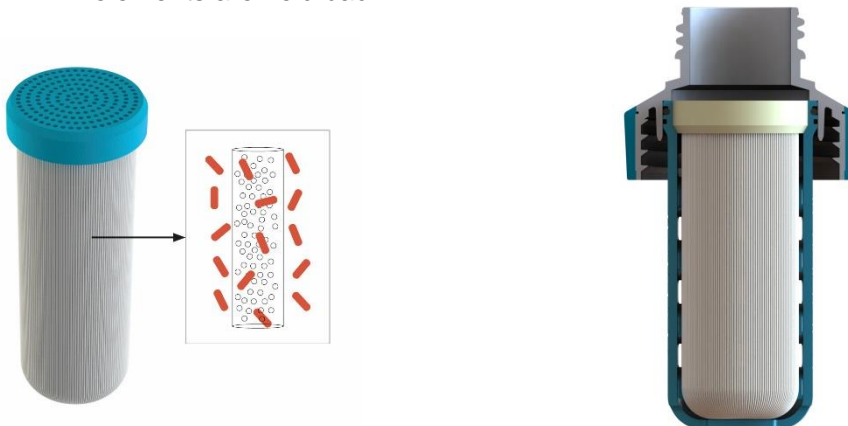
The Katadyn BeFree water filter system utilizes a variation of the hollow fiber micro filtration technology, that allows the system to be forward flushed rather than backflushed.

2.6.1 Microfiltration

The walls of the single capillary hollow fibers used are microporous with a pore size of 0.1 Micron (0.0001mm). By squeezing the soft flask of the BeFree system, pressure is applied from outside and contaminated water is pushed through the pores of the hollow fibers. Potentially harmful elements such as bacteria and protozoa are too big to enter into the hollow fiber and are held back mechanically.



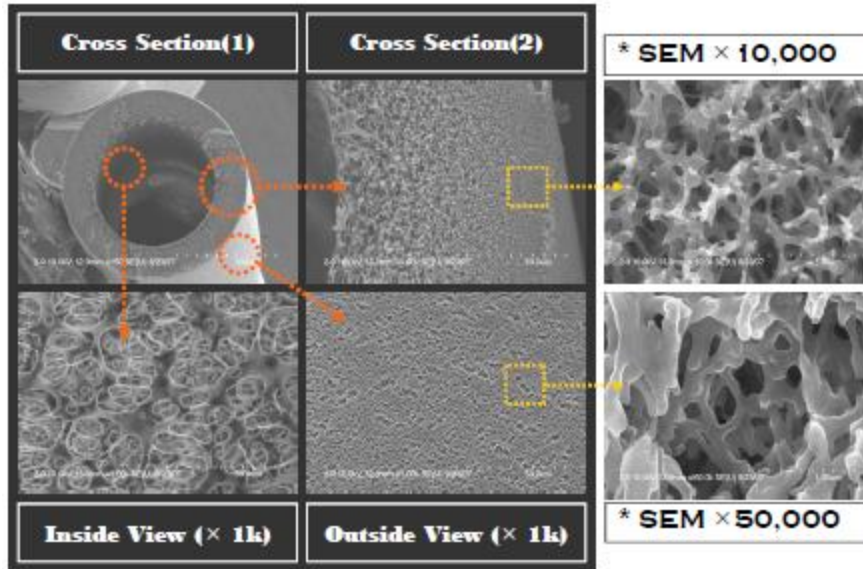
Picture 1: Hollow fiber with porous sidewalls. Contaminated water is pushed against the fiber sidewalls from outside. Clean water passes through pores, larger contamination elements are held back.



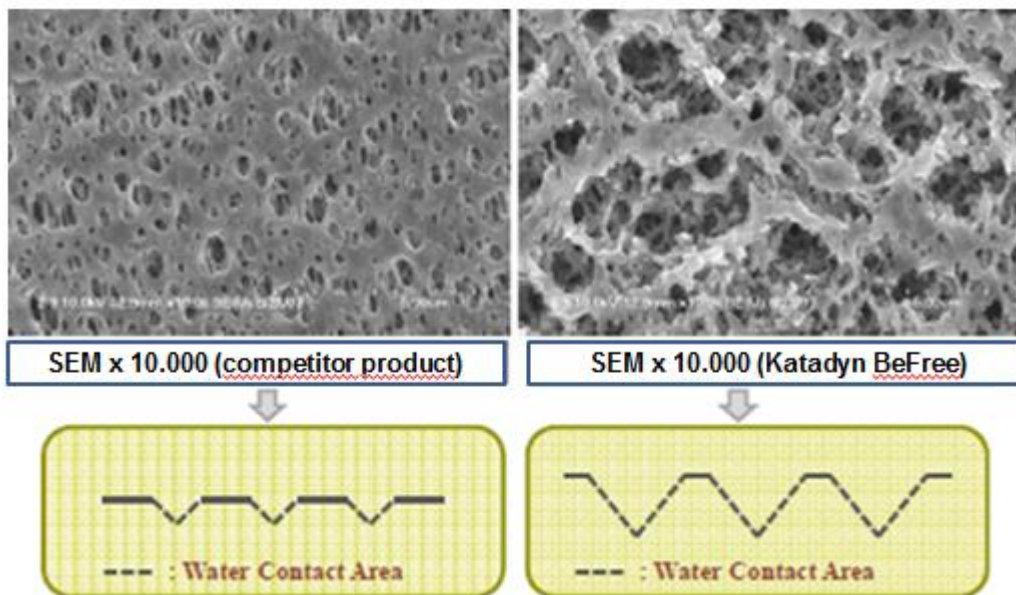
Picture 2: U-shaped hollow fiber arrangement in filter system.

2.6.2 The Hollow Fiber Membrane

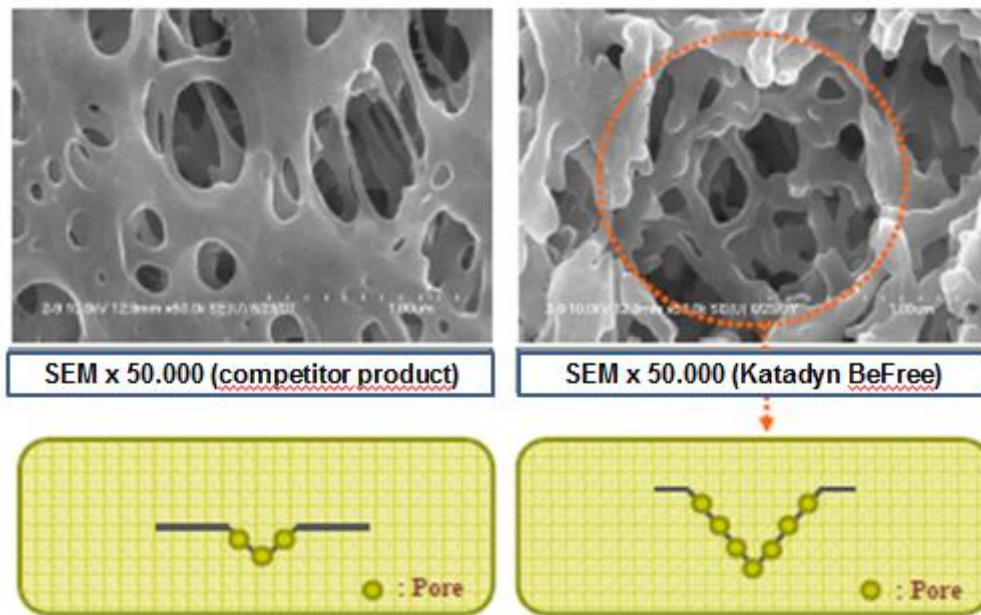
The hollow fibers of the Katadyn BeFree Filter are made of Polysulfone. This material provides a longer lifetime and its superior hydrophilic property prevents contamination and therefore prolongs its lifetime. The outside walls are thick in comparison to competitor membranes and provide enough space for a very high number of evenly distributed pores.



Picture 3: Thick outside membrane wall of hollow fibers with evenly distributed fine pores maximized in numbers.



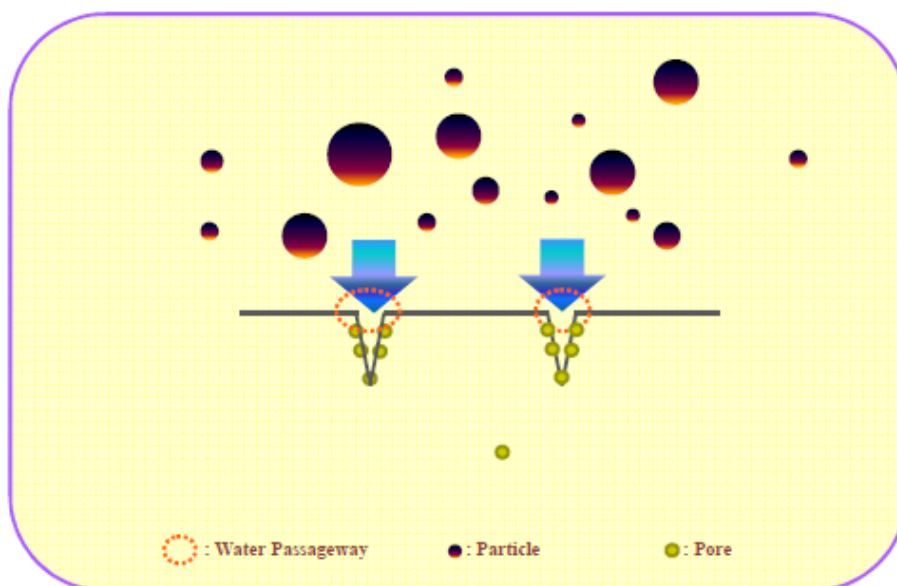
Picture 4: Rougher textured surface of outer membrane walls also increases water contact area.



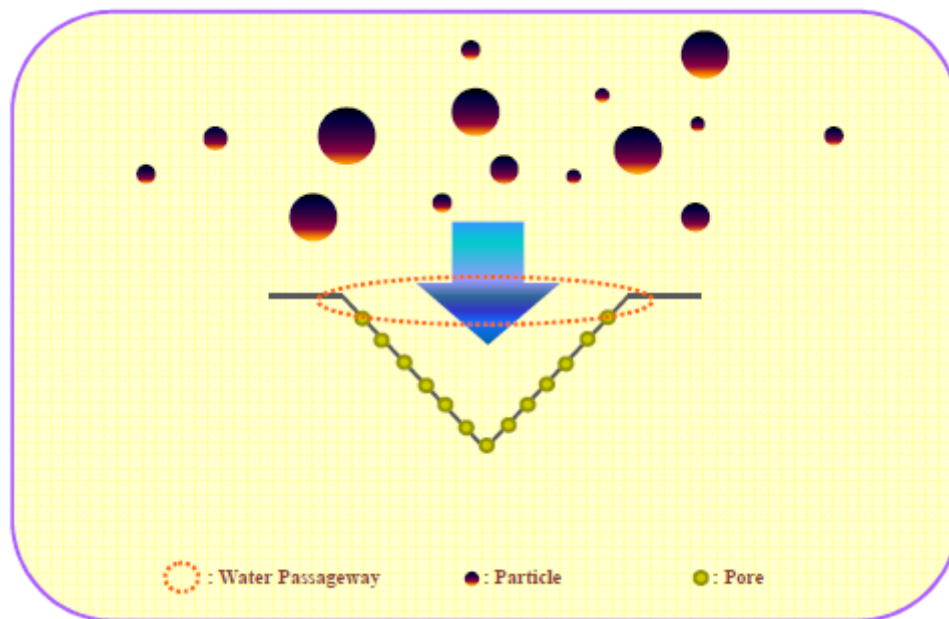
Picture 5: Thick outside membrane wall with rough textured surface of hollow fibers provides space for more pores in comparison to competitor products.

- ⇒ The combination of both high number of pores and the increased water contact area results in an exceptionally high flow rate of the BeFree Filter. This is what makes the BeFree so versatile: both drinking directly or using it as a filter to fill up larger water containers is easy with this high flow rate.

The rougher textured surface of the outer membrane walls also reduces clogging of the pores. As opposed to common hollow fiber profiles, larger particles don't easily clog several pores at the same time.



Picture 6: Competitor's hollow fiber surface with small water passageways. Particles can clog these passageways easily.

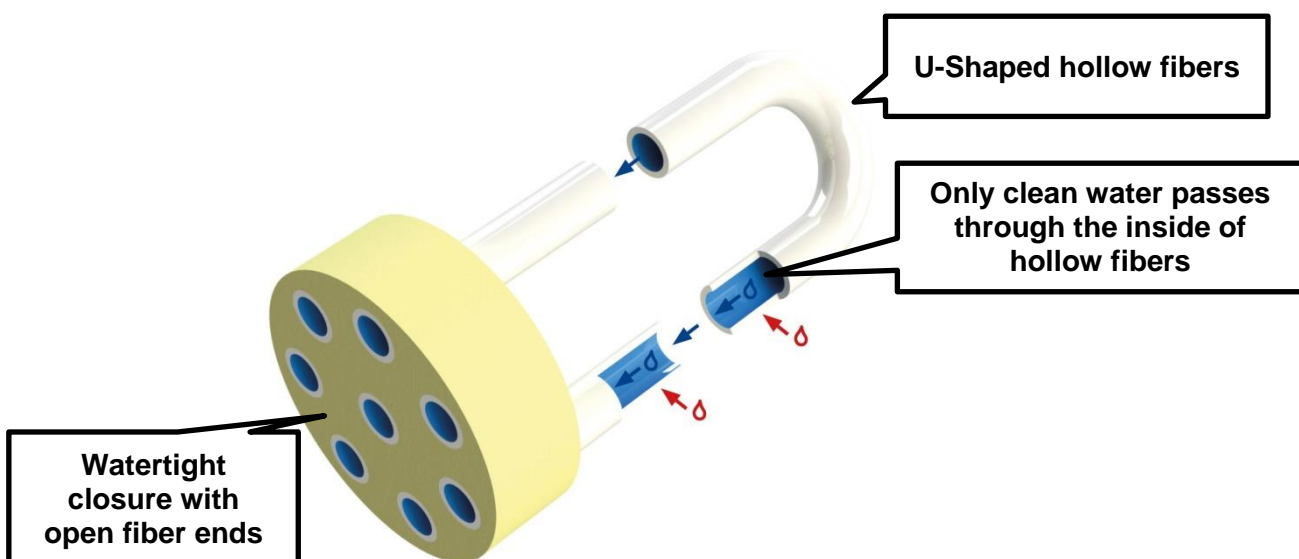


Picture 7: Katadyn hollow fiber with increased roughness of textured surface for larger water passageways. Clogging of passageways is more difficult due to this design and takes longer.

- ⇒ More pores provide a free flow of clean water to permeate through. The intervals between necessary cleaning of the filter are extended.

2.6.3 Filter Construction

A u-shape bundle of hollow fibers is held together in an open housing. The top of the housing is closed off watertight, with only the open fiber ends allowing clean water to exit the filter towards the mouthpiece.



Picture 8: Hollow fiber bundled in U-shape with closed watertight top and open fiber ends.



Picture 9: Open fiber ends of the BeFree system as seen from the top. Space in between the open fiber ends is blocked off and watertight.

2.6.4 Water Flow Direction

The openings of the housing at the side and at the bottom allow free access of water to the filter and protect the fibers against mechanical impact. As the BeFree Softflask is squeezed, pressure is applied and thus the water in the flask is pushed against the filter cartridge. Then the microfiltration process described above takes place. As the fiber ends are open at the top, clean water is pressed through the filter towards the mouthpiece.



Picture 10: Open filter housing for free water access to the hollow fiber filtration unit. When the softflask of the BeFree system is squeezed, pressure pushes the water directly against the fiber membranes and clean drinking water penetrates through the membrane.



2.6.5 Field Maintenance – The EZ-Clean System

Depending on the quality of the processed water, porous membranes of the hollow fibers can clog up. The user will notice that quickly, since the otherwise exceptionally high flow rate will in this case be reduced. Since the fibers are fitted into an open housing, washing off debris from the porous surface of the fibers can easily be done in two ways.



1. Shake:

Fill the flask with water (no need for clean water), screw the filter cartridge on the flask and shake the entire unit well. The movement of the water inside the flask will wash the debris off the fibers in the cartridge.

Or



2. Swish:

Remove the filter cartridge and gently swish it in a stream or lake. The contact with moving water will wash the fiber surface clean.

Both methods of this so-called “forward flushing” can be performed quickly in the field. No tools and no clean drinking water are needed to do so.



2.6.6 Forward Flushing vs. Backflushing

The forward flushing EZ-Clean procedure of the BeFree system as described above is only possible due to the open housing design of the filter cartridge. The hollow fibers of the filter are freely accessible from the exterior. Therefore debris can easily be washed off the fiber surface and then out of the filter housing.

Comparable competitor filter products generally are fitted into an enclosed housing where contaminated water enters from one end and moves into the housing, penetrates the hollow fibers and exits as clean water on the other end of the housing. As the enclosed housing is rigid, the water surrounding the fibers in the system can't be used to wash off any debris. The only way to clean the fiber surface is by injecting clean water with pressure from the clean end of the filter. By doing so, pressurized clean water is pushing debris off the fiber membrane from within.

However, since the housing of the filter is enclosed, this debris can only be flushed off the fibers and will stay trapped in the filter housing. For this, both a pressurizing tool (injector /syringe) as well as clean water are needed. Both are not practical to obtain in the field. In addition, a quick functionality test of the filter is not possible with this product design.

A used competitor filter (tested with approx. 100L of EPA test water) that has been backflushed several times looks like this inside:



Picture 11: Hollow fiber filter with enclosed housing - inside view after 100L filtration performance: plain white hollow fibers have turned into a brown dirt trap (competitor product).



Picture 12: Close-up of the BeFree element after 1000L of filtration. Note the slight brown discoloration of the white hollow fibers. Otherwise no dirt or particles are noticeable.

2.6.7 Integrity Test

For peace of mind in the field, the functionality of the filter can be checked easily by performing the integrity test. To do so, the user needs to simply blow into the mouthpiece of the filter unit.

- If it is possible to inflate the softflask, the filter cartridge is not tight anymore and needs to be replaced.
- If it is not possible to inflate the softflask, the filter is good for continued use.

For this quick and easy field test, no additional tools are needed. Note that the filter unit needs to be wet in order to perform this test conclusively.

⇒ **In comparison, the benefits of the BeFree forward flushing process and its open housing design are significant:**

- No tools are needed.
- No clean water is needed.
- The integrity test generates instant feedback about the filters functionality.
- The filter fibers can be checked visually for cracks and accumulated dirt.
- No residual water as potential bacteria growth area is accumulated in the filter housing.

2.6.8 Filter Capacity and Limitations

- The BeFree`s average lifetime is about 1000L. However, as long as the filter passes the integrity test and the flow rate is acceptable, the filter may well process more than 1000L. Filter cartridges can easily be replaced without the need for any tools.
- The hollow fiber technology is not suitable for temperatures below 0°C.
- Particularly turbid water clogs up the filter quickly.
- The filter does not remove viruses
- The filter cannot filter sea-water, brackish water or chemically contaminated water.

2.6.9 Cleaning, Drying and Storage

Filter cartridge

- To prevent microbiological growth within the EZ-Clean Membrane it is recommended to treat the filter with Micropur Purification tablets before storing (See Manual). For this we recommend to use Micropur Forte MF 1T, MF 100f or MF 1000f.
- The Filter and softflask need to be completely air dried before being reassembled for storage.
- When removing the filter from long-term storage, flushing the system with approximately 2 liters of water to remove any stale tasting water is recommended.

Hydrapak Softflask:

- The Hydrapak Softflask (without the filter element) is dishwasher safe (top rack is recommended).
- In order to facilitate cleaning and drying, the softflask can also be turned inside out.
- When kept continuously at room temperature, dustfree, dry and without exposure to direct sunlight, the product can be stored for 10 years.

2.6.10 Technology Summary

- Katadyn hollow fibers are a micro-porous barrier with a pore size of 0.1 microns (0.0001mm), through which contaminated water is pushed by applying mechanical, hand-powered pressure.
- Water is pushed from the outside to the hollow core of the filter fibers. Contaminants get trapped in pores of the filter on the outside of the fibers.
- These contaminants can easily be washed away by shaking or swishing the filter element in water (forward flushing). Back flushing is not needed.
- Bacteria are between 0.2 and 5 microns; protozoa are 1-15 micron. Both are easy to filter out with Katadyn hollow fiber filter elements.
- After about 1000L (depending on water quality), the porous membranes of the fibers can clog up. This is easy to recognize, since the flow rate of the filter will be reduced.
- The integrity test provides instant feedback (and thus safety) about the functionality of the filter.



3 Regulatory Framework & Documentation

3.1 Filter Testing Regulation Statement

KATADYN GROUP
SWITZERLAND

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Pfäffikerstrasse 37
8310 Kempthal
Switzerland
Tel +41 44 839 21 11
Fax +41 44 839 21 99
info@katadyn.ch
www.katadyngroup.com

Kempthal, July 07, 2017

Filter Testing Regulations

To whom it may concern

Nowadays most products are manufactured according to highly regulated standards, codes and regulations. Most of these regulations are based on requirements set forth by government agencies. Since every country has a different set of requirements, the acceptance of international standards makes it easier for manufacturers to market their products worldwide.

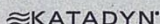
However, portable water treatment products do not fit into any of the existing standards. From a local health authorities point of view, the requirement for portable water treatment products is that they make water safe to drink according to the WHO or their own drinking water regulation. A copy of the WHO drinking water guideline is attached to this letter.

The definition of portable water treatment systems is that they are used for personal use for a limited time. Therefore the first priority is microbiological safety. If they were to be used on a permanent basis, all other health related requirements of the WHO guideline would have to be met as well. Most of them are related to heavy metal content.

In the absence of an international standard, it becomes difficult to compare the various systems that are currently on the market. To improve this situation manufacturers and buyer selected the most comprehensive and restrictive standard that is currently in use and made it the unofficial standard. This standard was developed by the United States Environmental Protection Agency (USEPA) and is named: Guide Standard and Protocol for Testing Microbiological Water Purifiers. The micro-organisms selected in the protocol are known to be representatives for water born pathogens of their respective species. They were singled out for their robustness in testing environments. You can find a copy of the complete protocol attached to this letter.

All Katadyn filters pass this standard for bacteria and cyst removal.

When evaluating water purification systems, we strongly recommend observing the said EPA protocol.

 KATADYN

MICROPUR

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OPTIMUS

KATADYN GROUP
SWITZERLAND

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www.katadyngroup.com

The technology used in Katadyn filters has not changed since the EPA tests were done. Katadyn's own manufacturing standards and a 100% filter cartridge test ensure that every product still meets the EPA protocol. As long as the technology has not changed there is no need to run an external test again since the results would stay the same.

EPA protocol requirement	99.9999% bacteria reduction	99.99% cyst reduction	99.99% virus reduction
EPA micro-organism	<i>Klebsiella terrigena</i> 10 ⁷ /100 ml	<i>Giardia Lamblia</i> or <i>Giardia Muris</i> or <i>Cryptosporidium parvum</i> or <i>NSF 53 protocol</i>	<i>Poliovirus 1</i> 1x10 ⁷ /1 L <i>Rotavirus (Wa or SA-11)</i> 1x10 ⁷ /1 L
Katadyn products meeting the protocol	Katadyn Pocket Katadyn Combi Katadyn Camp Katadyn Siphon Katadyn Drip Katadyn Expedition Katadyn Hiker Katadyn Guide Katadyn Vario Katadyn Base Camp Katadyn MyBottle Katadyn Mini Katadyn BeFree Filter	Katadyn Pocket Katadyn Combi Katadyn Camp Katadyn Siphon Katadyn Drip Katadyn Expedition Katadyn Hiker Katadyn Guide Katadyn Vario Katadyn Base Camp Katadyn MyBottle Katadyn Mini Katadyn BeFree Filter	Katadyn MyBottle VirusPur Katadyn MyBottle VirusStat

Please feel free to contact us if you have additional questions or need to set up a test with a local laboratory. We also help you interpret test reports of our own filters or reports of third party products.

Sincerely,

Katadyn Products Inc.

Carmen Heiter
Vice President Product Development
Board of Management



Attachment
1 US EPA Guide Standard and Protocol for Testing Water Purifiers
1 WHO Drinking Water Guideline as in Appendix of EC Directive 98/83/EC Quality of Water Intended for Human Consumption

≡KATADYN®

MICROPUR®

TREK'N EAT

OPTIMUS

3.2 Food Safety Declaration

Declaration of Compliance for Materials and Articles intended to come in Contact with Foodⁱ

Katadyn Products Inc
Pfäffikerstrasse 37
8310 Kempththal - Switzerland
Tel +41 44 839 21 11
Fax +41 44 839 21 99

Declares, that the products:

- **Katadyn BeFree Filter (Art. Nr. 8019946 (EU) / 8019639 (US))**

comply with the Framework Regulation (EC) No. 1935/2004 under the following conditions of use:

- As device for production of drinking water. The product shall be used according to the supplied instruction of use. All materials in contact with drinking water (food contact) are produced in compliance with good manufacturing practice and will not transfer their constituents to the drinking water in quantities which could endanger human health.
- Suitable water temperature: > 4 °C and < 45 °C (>32°F and <113°F)

Traceability codes are not printed on the product as each filter is 100% tested before it leaves the factory.

Issued in Kempththal on the 16th day of August 2016




Roger Walch
Head of Sales
Board of Management



Carmen Heiter
VP Product Development
Board of Management

ⁱ Framework Regulation (EC) No. 1935/2004

3.3 Lab test Results: Reduction /Life Time Test Katadyn BeFree Filter



Bachema AG
Analytische Laboratorien

Schlieren, 13 September 2016
SIS

Katadyn Produkte AG
Pfäffikerstrasse 37
8310 Kempththal

Analytical report

Object: Reduktions-Tests von Trinkwasserfiltern

<p>Bachema AG Rufstrasse 22 CH-8952 Schlieren</p> <p>Telefon +41 44 738 39 00 Telefax +41 44 738 39 90 info@bachema.ch www.bachema.ch</p> <p>Chemisches und mikrobiologisches Labor für die Prüfung von Umweltproben (Wasser, Boden, Abfall, Recyclingmaterial) Akkreditiert nach ISO 17025 STS-Nr. 0054</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Bachema order number</td> <td style="padding: 2px;">201607801</td> </tr> <tr> <td style="padding: 2px;">Sample number</td> <td style="padding: 2px;">36390-36394</td> </tr> <tr> <td style="padding: 2px;">Date of sampling</td> <td style="padding: 2px;">09 September 2016</td> </tr> <tr> <td style="padding: 2px;">Date of arrival at Bachema</td> <td style="padding: 2px;">09 September 2016</td> </tr> <tr> <td style="padding: 2px;">Place of sampling</td> <td style="padding: 2px;">Schlieren</td> </tr> <tr> <td style="padding: 2px;">Samples taken by</td> <td style="padding: 2px;">E. Belloni, Bachema AG</td> </tr> </table>	Bachema order number	201607801	Sample number	36390-36394	Date of sampling	09 September 2016	Date of arrival at Bachema	09 September 2016	Place of sampling	Schlieren	Samples taken by	E. Belloni, Bachema AG
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Yours sincerely,
BACHEMA AG



Annette Rust
Dr. sc. nat. / Dipl. Umwelt-Natw. ETH

201607801 / 13 September 2016

page 1/3



Bachema AG
Analytische Laboratorien

Object: Reduktions-Tests von Trinkwasserfiltern
Customer: Katadyn Produkte AG
Bachema order number: 201607801

Overview over the samples

Bachema number	Sample description	Sampling / Arrival
36390 W	Ausgangssuspension	09.09.16 / 09.09.16
36391 W	Filter nach field test 1 = Unit 6	09.09.16 / 09.09.16
36392 W	Filter nach field test 2 = Unit 7	09.09.16 / 09.09.16
36393 W	Filter nach EPA End of Life Test >1000L 1 Unit 4	09.09.16 / 09.09.16
36394 W	Filter nach EPA End of Life Test >1000L 2 Unit 5	09.09.16 / 09.09.16

Caption to the legal standards

OHyg (container)	Limit values acceptable for drinking waters, filled up into containers, microbiological criterion for foodstuffs and personnel, Ordinance DFI on hygiene (OHyg).
------------------	--

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Chemisches und
mikrobiologisches
Labor für die Prüfung
von Umweltsproben
(Wasser, Boden, Abfall,
Recyclingmaterial)
akkreditiert nach
ISO 17025
STS-Nr. 0064

Abbreviation

n.d.	not detected
cfu	Colony forming units
W	Water sample
F	Solid sample
dw	dry weight
<	For the results, the value after the sign < (smaller than) indicates the limit of quantification for the corresponding method.
*	Parameters marked with a * are not within of the accredited area of Bachema AG or are external analyses.

Accreditation

 	Partially copying of the analytical report is only allowed with permission from Bachema AG.
	Detailed information on analytical methods, precision of the measurement and further data are available on request (see also www.bachema.ch).



Bachema AG
Analytische Laboratorien

Object: Reduktions-Tests von Trinkwasserfiltern
Customer: Katadyn Produkte AG
Bachema order number: 201607801

Sample description		Ausgangs-suspension				OHyg (container)
Sample number		36390				
Date of sampling		09.09.16				
Time of sampling		14:11				
Microbiological parameters						
<i>Escherichia coli</i>	ctu/100 mL	290,000,000				n.n.
Enterococci	ctu/100 mL	84,000,000				n.n.
<i>Pseudomonas aeruginosa</i>	ctu/100 mL	18,000,000				n.n.

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(Wasser, Boden, Abfall,
Recyclingmaterial)
Akreditiert nach
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Sample description	Unit 4 Unit 5 Unit 6 Unit 7				OHyg (container)
	Filter nach EPA End of Life Test >1000L 1	Filter nach EPA End of Life Test >1000L 2	Filter nach field test 1	Filter nach field test 2	
Sample number	36393	36394	36391	36392	
Date of sampling	09.09.16	09.09.16	09.09.16	09.09.16	
Time of sampling	14:11	14:11	14:11	14:11	
Microbiological parameters					
<i>Escherichia coli</i>	ctu/100 mL	n.d.	n.d.	n.d.	n.d.
Enterococci	ctu/100 mL	n.d.	n.d.	n.d.	n.d.
<i>Pseudomonas aeruginosa</i>	ctu/100 mL	n.d.	n.d.	n.d.	n.d.

3.4 Lab test Results: US EPA Test Katadyn BeFree Filter

Study Title

**Katadyn BeFree Hollow Fiber Filter as Tested According to a Modified
US EPA Guide Standard and Protocol for Microbiological Water
Purifiers**

Data Requirement

Modified Purifier Protocol for Bacteria and Protozoans

Author

Richard E. Danielson, Ph.D.

Study Completed on

10/06/2016

Amended 6/29/2017

Performing Laboratory



**IEH-BioVir Laboratories
685 Stone Road, Unit 6
Benicia, California 94510-1126
(800) 442-7342**

Laboratory Project ID

Project # 161303

IEH-BioVir Laboratories 161303

DATE: October 19, 2016

TO: Carmen Heiter
Katadyn Products
Birkenweg 4
8304 Wallisellen
Switzerland

FROM: Rick Danielson, Ph.D.
Laboratory Director

SUBJECT: Report 161303 on the Katadyn BeFree Hollow Fiber Filter as Tested According to a Modified US EPA Guide Standard and Protocol for Microbiological Water Purifiers.

Purpose: The purpose of this test was to conduct a microbial reduction assessment of the Katadyn BeFree Hollow Fiber Filter. The test organisms were *Raoultella terrigena* and fluorescent microspheres. The intended endpoints were ≥ 6 log removal of *R. terrigena* and ≥ 3 log removal of microspheres.

Protocol: Please see the attached original protocol developed with Katadyn. .

Description of Challenge Test: ~~Two~~³ BeFree Hollow Fiber Filter units were attached to the test rig. General Test Water (GTW) 1 and GTW 3 (see attached protocol) were used to process water to the desired challenge points. See Table 1 for water quality measures.

Katadyn requested that the filters be cleaned every 5 L while processing the GTW 3. A lower limit flow rate of 0.1 Lpm was established as an end point to the test.

Results: The results of the challenge assessment through 63 L of the life of the filter units are given below, Table 2.

IEH-BioVir Laboratories 161303-Amended

Table 2. 161303 Test Results

Test Day	Sample	Bacteria (cfu/100 mL)	Microspheres /L
1	Influent	1.00E+08	8.70E+06
	Unit 1	<1	<100
	Unit 2	<1	<100
	Unit 3	<1	<100
	Stagnation	<1	<100
3	Influent	1.10E+08	6.80E+06
	Unit 1	<1	<100
	Unit 2	<1	<100
	Unit 3	<1	<100
6	Influent	7.40E+07	7.60E+06
	Unit 1	<1	<100
	Unit 2	<1	<100
	Unit 3	<1	<100
Stagnation	Unit 1	<1	<100
	Unit 2	<1	<100
	Unit 3	<1	<100
7	Influent	3.80E+08	1.60E+07
	Unit 1	<1	<100
	Unit 2	<1	<100
	Unit 3	<1	<100

8	Influent	1.30E+08	1.70E+07
	Unit 1	<1	<100
	Unit 2	<1	<100
Stagnation	Unit 1	<1	<100
	Unit 2	<1	<100
	Unit 3	<1	<100
10.5	Influent	2.20E+08	1.60E+07
	Unit 1	<1	<100
	Unit 2	<1	<100
	Unit 3	<1	<100

IEH-BioVir Laboratories 161303-Amended

As can be seen from the results, under the described conditions, the test units exceeded¹ the EPA purifier standard for log removal of bacteria (goal of 6 log reduction) for all units at all challenge points. In addition, the filter units exceeded the goal for cyst reduction (3 logs) with a demonstrated greater than five-log reduction of microspheres.

3.5 REACH Conformity Statement

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www.katadyngroup.com

REACH CONFORMITY STATEMENT

Kempthal, June 26th 2015

To whom it may concern

We herewith confirm that the chemical substances, falling under the REACH regulation and used in the manufacturing process of our water treatment goods, are pre-registered or currently undergo the pre-registration phase of the REACH regulation. Polymeric raw materials are excluded from the REACH regulation and are therefore not REACH relevant.

Katadyn Products Inc. is in close contact with its suppliers to ensure full compliance with the REACH regulation.


Katadyn Products Inc.



Trix Ammann
Executive Director



Carmen Heiter
Product Manager

 **KATADYN**[®]

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4 In-Use Photography 0.6L & 1.0L Version







4.1 In-Use Photography 3.0L Version





5 Tactical Filters

The tactical version of the Katadyn BeFree features the same benefits as the consumer version of the BeFree, however the filter element is manufactured in black (or dark gray) and the softflasks are made of a thicker grade TPU material for more durability in the field. Even though it is dark grey, it is still see through it so it remains easy to check on the water level in the flask. Tactical filters are available in the 1.0L size.



Picture 1: Tactical Filters 1.0L



Picture 2: Tactical Filter with open housing



Picture 3: Dimensions Tactical Filter 1.0L

The minimum order quantity for customized tactical (or other) filters is >5000 pieces and subject to certification standards.

6 Supply and After Sales

6.1 Production Capacity (Indications)

Estimated maximum output:

Name	Articlenumber	Daily Output
Katadyn BeFree Filter	8019946 (EU) 8019639 (US)	~800 pc

Weekly Output: ~4000 pc.

Production Time for 1 x 40" Container:

~21 working days (16740 pc)

All data are indicative and depend on supply situation, free capacity etc.

Special make ups are possible (MOQ apply; lead times will vary)

Military Version: black /gray soft flask, black filter element

Picture (below) of assembly line in Kempththal, Switzerland: Like every Katadyn product, the BeFree filter is made in our clean and safe facilities. Following the KAIZEN principles, we are striving for constant process improvements and raising our quality standards.



6.2 Shipping Details

Article: 8019946 / 8019639
Name: Katadyn BeFree Filter (standard version EU/US)

Palletization



Name	Article Nr.	Pc / shipping carton	Cartons / Pallet	Pc/ Pallet	Pallet Dimension*	Pallet Weight **
Katadyn BeFree 0.6 L	8019946 (EU) 8019639 (US)	6	90	540	114 x 76 x 199 (H) cm 45" x 30" x 78" (H) in	80 Kg 176.3 lbs

*Product only (height of pallet to be added, depending on type of pallet)

**Product only (weight of pallet to be added, depending on type of pallet)

Loading per 40' container



31 pallets per container
 16740 BeFree Filters per container

Transport-time Switzerland => Rest of World



Depends on destination

6.3 Warranty and Customer Service

Warranty

The Katadyn BeFree Filter comes with a standard warranty of 2 years.

Customer Service

We understand that there are occasions, either prior to your purchase or after, where you may require assistance. With this in mind we have a dedicated team of specialists available during normal office hours to offer advice on all of our products, including the Katadyn BeFree filter.

Our Customer Service department is easily accessible worldwide by email, and we are committed to having your requests or comments answered within 24 hours, offering practical solutions. Just visit us at www.katadyn.com and go to the SERVICE menu and then -CONTACT. We are personally enthusiastic and experienced users of the products we make and have ourselves many years of experience and technical expertise with them. If you require assistance or advice on our products, you can drop us a note with your inquiry and we will do our best to help you.



www.katadyn.com/service/contact

7 User Manual Katadyn BeFree Filter – English



1 INTENDED USE OF THE Katadyn BeFree™

Congratulations on your purchase of the Katadyn BeFree™. When used properly in accordance with the instructions provided in this manual, this product is designed to reduce the levels of bacteria and protozoan cysts commonly found in fresh water sources to make it safer for drinking. It meets the U.S. Environmental Protection Agency's microbiological water purifier standards for reduction of bacteria (99.9999% *Klebsiella terrigena*) and protozoan cysts (99.9% *Giardia* and *Cryptosporidium*). It is ideal for use hiking, camping in the wilderness or traveling in areas where treated water is unavailable.

Water definitions as used in this manual

Fresh water = Untreated water (Lakes, Rivers, Streams, etc.)

Filtered fresh water = Potable drinking water

Treated water = Treated tap water or chemically disinfected water, or boiled disinfected water

2 WARNINGS

Using the Katadyn BeFree™ improperly or drinking untreated water can result in exposure to harmful microorganisms and an increased risk of diseases. Reduce your risk of becoming sick by following the warnings and instructions in this manual and by educating yourself on backcountry/travel illness prevention. YOU ARE RESPONSIBLE FOR YOUR OWN SAFETY AND THOSE IN YOUR GROUP. PLEASE USE GOOD JUDGEMENT.

Improper use of the Katadyn BeFree™ or use of a damaged or contaminated EZ-Clean Membrane™ expose you to harmful microorganisms and increase your risk of contracting a gastrointestinal illness. Read this entire manual before assembling or using the Katadyn BeFree™ and follow all instructions carefully. If you have any questions, contact Katadyn at +41 44 839 21 11 or email us at customerservice@katadyn.ch or visit our website at www.katadyn.com

- The Katadyn BeFree™ does not remove viruses.
- Never use the Katadyn BeFree™ to filter seawater or brackish water or chemically contaminated water, such as water from mine tailing ponds or near large agricultural operations. The Katadyn BeFree™ does not make drinkable water from these sources and does not remove chemicals and radioactive materials or particles smaller than 0.1 microns.
- Do not use in freezing conditions (a frozen EZ-Clean Membrane™ could lead to microorganism bypass, resulting in illness)
- Improper threading of cap to the Hydrapak® SoftFlask™ could cause fluid leakage and result in illness.
- Do not hold or squeeze the EZ-Clean Membrane™ with your hand while opening or closing the Katadyn BeFree™ (as showing in the diagram on the next page). Carefully hold the top part of the flask when opening or closing the Katadyn BeFree™, allowing the EZ-Clean Membrane™ to rotate freely inside the flask. Holding or squeezing the EZ-Clean Membrane™ while opening or closing the Katadyn BeFree™ could result in damage or breakage to the filter membrane, thus compromising/damaging the filter (which could allow harmful microorganisms to bypass the filter, leading to illness).

2 WARNINGS (CONTINUED)



Do not hold or squeeze the EZ-Clean Membrane™ with your hand while opening or closing the Katadyn BeFree™



Do not rinse the EZ-Clean Membrane™ horizontally under running water – doing so may destroy the hollow fibers



Do not touch the hollow fibers with a tool or with your fingers.



2 WARNINGS (CONTINUED)

- If the Katadyn BeFree™ has been dropped into a fresh water source, follow instructions for long term storage to completely disinfect filter before use. If the Katadyn BeFree™ is damaged or contaminated, do not use.
- Do not allow fresh water to contaminate the output parts (drink nozzle, filter output).
- To minimize risk, when filtering water, do not splash dirty or fresh water on the drink nozzle and do not share the drink nozzle with others (Note: Illness can be spread by sharing drink nozzle with other people)
- Do not filter any substance or liquid other than fresh water through your Katadyn BeFree™ or the EZ-Clean Membrane™ may become damaged or contaminated.
- Before long term storage, disinfect the EZ-Clean Membrane™ thoroughly to prevent growth of mold, mildew and bacteria which could cause illness (see Long Term Storage)
- Do not use dishwasher or microwave to disinfect the EZ-Clean Membrane™ or the drink nozzle. Doing so will damage or melt the parts from high heat. The Hydrapak® SoftFlask™ can be put in the dishwasher on the top rack.
- Always seek the best fresh water source available.
- Always handle the Katadyn BeFree™ carefully.
- Extend your filter's lifespan by using one of the following EZ Clean options: SHAKE or SWISH every 5 liters (see Performance Tips).
- On extended trips, bring along a Katadyn Replacement EZ-Clean Membrane™.
- READ, UNDERSTAND AND FOLLOW ALL instructions and warnings in this manual before using the Katadyn BeFree™. Failure to follow all warnings and instructions may result in exposure to harmful microorganisms and illness.

3 IMPORTANT SAFETY MESSAGE

Read before using Katadyn BeFree™

When you travel abroad, camp or backpack, you run the risk of illness ranging from the inconvenience and discomfort of diarrhea to more serious illnesses caused by protozoan cysts (i.e., Giardia, Cryptosporidium), viruses and bacteria.

The microorganisms that cause these diseases are often found in the food and water you consume.

Lakes, rivers, streams and the local water supply may also be contaminated.

To minimize the risk of contracting these illnesses, we suggest that you consult with your physician, state health department or travel clinic 4-6 weeks before you depart.

And while you are traveling, make sure that prepared food is thoroughly cooked according to its specified instructions. Select non-cooked foods (fruits, nuts, etc.) that have intact shells or skins, and always sanitize your hands properly before peeling the food. Wash your hands with soap and warm water thoroughly and often (and use hand sanitizer), especially before you eat or prepare food. Also, in groups encourage everyone to wash their hands frequently. Microorganisms can spread to communal gear from one group member not sanitizing their hands properly. Do not share personal items (i.e. lip balm, eating utensils, toothbrushes, water bottles or bite-valves on hydration bladders). Make sure all food is properly prepared and thoroughly cooked. Filter all drinking water with your Katadyn BeFree™, including water used for brushing teeth, washing your face, etc. according to the instructions in this manual.

If there is any risk of viruses in the water, use an EPA-registered disinfectant such as Katadyn Micropur MP1 Purification Tablets or Micropur Forte (MF 100F), in combination with the Katadyn BeFree™ (Note: Follow all instructions for proper use of Micropur MP1 or Micropur Forte (MF 100F) and wait the appropriate treatment time) or boil your water (must bring to a rolling boil for approx. 1 minute) (Note: The Katadyn BeFree™ does not remove viruses).

4 KEY COMPONENTS IN SYSTEM

- (1) Hydrapak® SoftFlask™
- (2) Drink nozzle
- (3) EZ-Clean Membrane™ (hollow fiber)

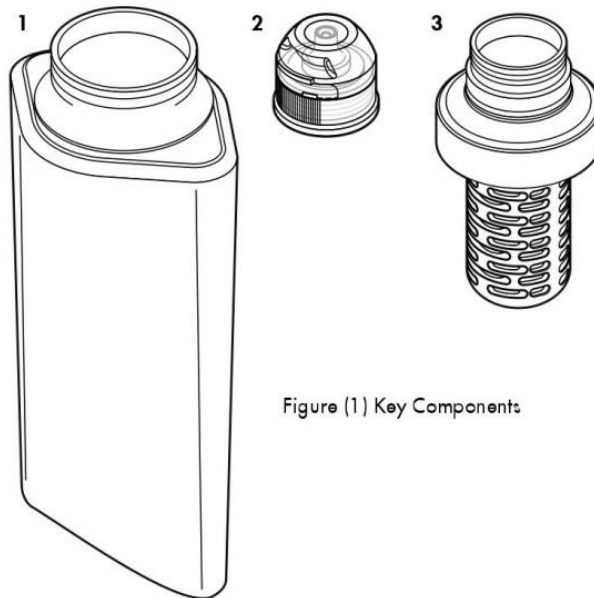


Figure (1) Key Components

5 PRODUCT SETUP

The Katadyn BeFree™ requires minimal setup. For best results, try out the product before first use and familiarize yourself with its operation.

Remove the two tamper evident closures of the drink nozzle (see figure 2):

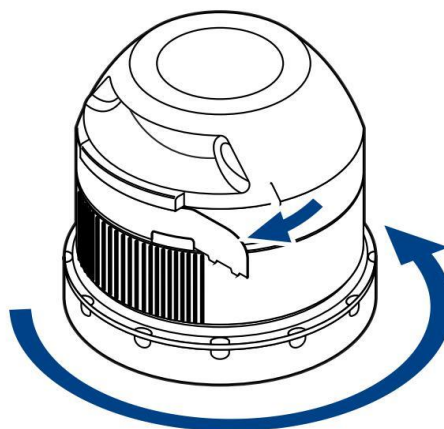


Figure (2) Removing tamper evident closures

Flush system by running approximately 0.5 liters of filtered or treated water through the EZ-Clean Membrane™ (hollow fiber) to remove harmless particles and dust. See following section on Normal Operation on how to filter water.

6 NORMAL OPERATION

A) Open the system by holding the top of the Hydrapak® SoftFlask™ and unscrew the EZ-Clean Membrane™ counter-clockwise (blue ring) (see figure 3).

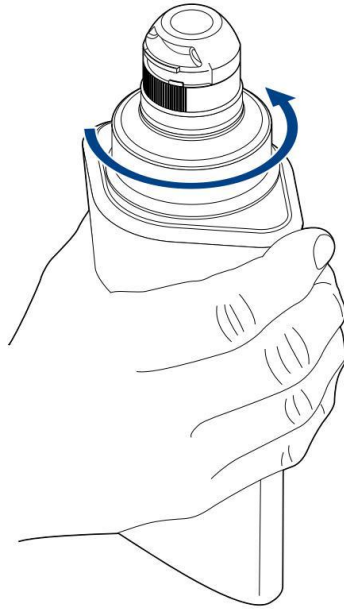


Figure (3) Opening

6 NORMAL OPERATION (CONTINUED)

B) Fill the Hydrapak® SoftFlask™ with fresh water (not salt or brackish water) from the best water source available (such as clear lakes, rivers or streams or faucets or fountains) (see figure 4).

IMPORTANT: Wipe off the fresh water from the outside of the Hydrapak® SoftFlask™ before drinking.

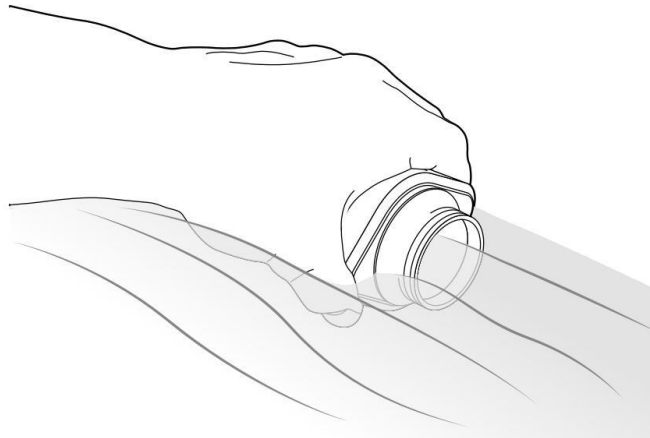


Figure (4) Filling

6 NORMAL OPERATION (CONTINUED)

- C) Close the system by screwing filter clockwise onto the Hydrapak® SoftFlask™ ensuring a proper thread seal and avoiding cross-threading which could lead to bypass, ensuring a tight seal (see figure 5)

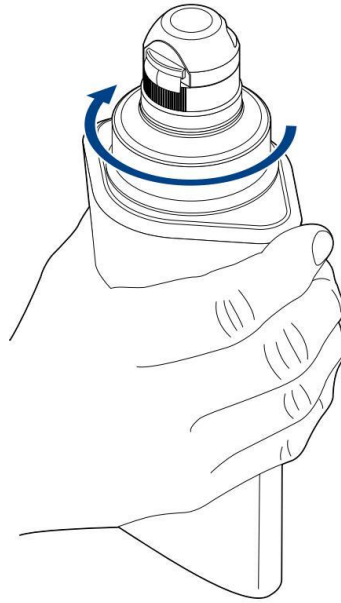


Figure (5) Closing

6 NORMAL OPERATION (CONTINUED)

- D) Squeeze the Hydrapak® SoftFlask™ smoothly or drink directly from the drink nozzle (For best performance invert and lightly squeeze the Hydrapak® SoftFlask™ - see figure 6).

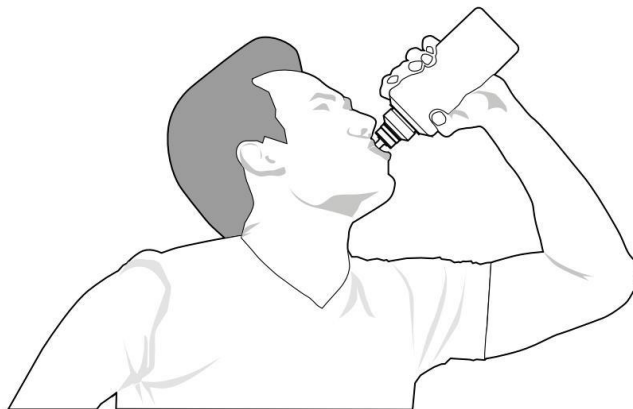


Figure (6) Drinking

- E) Enjoy the filtered fresh water from your Katadyn BeFree™!

7 PERFORMANCE TIPS

To extend the life of your EZ-Clean Membrane™, always use the best available fresh water source. Avoid still water or water in areas of heavy human or animal use.

Filter Integrity Test

If you suspect that your Katadyn BeFree™ may have been damaged in some way, you can perform this quick and easy integrity test in the field.

1. Squeeze 0.5 liters fresh water through the Katadyn BeFree™
IMPORTANT: The integrity test only works with a wet EZ-Clean Membrane™.

2. Try to blow air - using your mouth - through the drink nozzle into the Hydrapak® SoftFlask™.
 -> cannot blow through filter = fiber ok
 -> can blow through filter = fiber broken
 Stop: DO NOT USE FILTER! Replace EZ-Clean Membrane™

Maintain your Katadyn BeFree™ to keep it operating properly.

A) If the Katadyn BeFree™ leaks near the cap
 Unscrew the EZ-Clean Membrane™ and screw it back on. Make sure that you position the EZ-Clean Membrane™ straight on the thread of the Hydrapak® SoftFlask™ and tighten it firmly.

B) If the Katadyn BeFree™ is dropped hard, check the hollow fibers visually and perform the filter integrity test to make sure the fibers are ok.

IMPORTANT: Do not touch the hollow fibers with a tool or with your fingers. (See WARNING section)

7 PERFORMANCE TIPS (CONTINUED)

C) If water flow is slow, or the Hydrapak® SoftFlask™ becomes harder to squeeze, use ONE of the EZ Clean steps (Shake, Swish) printed on the outside of the Hydrapak® SoftFlask™:



Shake



Swish

Shake

Fill the Hydrapak® SoftFlask™ with fresh water & shake to easily clean the EZ-Clean Membrane™ in the field

-OR-

Swish

Remove the EZ-Clean Membrane™ and swish in any fresh water source to clean in the field (Note: DO NOT allow the drink nozzle and top of the filter to contact contaminated water sources).

IMPORTANT: Do not rinse the EZ-Clean Membrane™ horizontally under running water. (See WARNING section)

7 PERFORMANCE TIPS (CONTINUED)

If Shake or Swish fail to restore water flow, replace EZ-Clean Membrane™.
 -> On extended trips, bring along an EZ-Clean Membrane™ Replacement.

D) Trapped air in the EZ-Clean Membrane™ may also reduce flow rates.
 Fill the Hydrapak® SoftFlask™ with a small amount of fresh water, close the system and the cap of the drink nozzle, shake the system, open the cap again and squeeze the Hydrapak® SoftFlask™ until the air goes through the EZ-Clean Membrane™.

8 LONG TERM STORAGE (AFTER YOUR TRIP IS OVER)

Disinfect your Katadyn BeFree™ before storage to prevent microbiological growth within the EZ-Clean Membrane™.

- A) Fill a 0.5 liter container with filtered or treated water and add 1 Micropur MP1 Purification Tablet or Micropur Forte (MF 100F). (If not available, use 4 drops of ordinary household bleach.)
- B) Pour the solution into the Hydrapak® SoftFlask™. Close the system by screwing the cap (with EZ-Clean Membrane™) clockwise.
- C) Squeeze the entire amount of water through the EZ-Clean Membrane™.
- D) Allow the components to air dry completely before reassembling the system.

Note: When removing the Katadyn BeFree™ from long term storage, flush the system with 2 liters of filtered or treated water to remove any stale tasting water.

9 FILTER CARTRIDGE CAPACITY & REPLACEMENT

The life span of the EZ-Clean Membrane™ depends on water quality. To extend life of your EZ-Clean Membrane™, clean it regularly. For optimum filter performance replace the EZ-Clean Membrane™ after 1000 liters or if water flow has slowed or stopped (review Performance Tips to ensure best product performance).

Replacement EZ-Clean Membrane™ Installation

Katadyn BeFree™ Replacement EZ-Clean Membranes™ are available from the dealer where you purchased your Katadyn BeFree™.

To replace your EZ-Clean Membrane™ twist cap in a counter-clockwise motion and remove the EZ-Clean Membrane™ from the Hydrapak® SoftFlask™. Install new EZ-Clean Membrane™ by screwing it into the Hydrapak® SoftFlask™ in a clockwise motion.

10 Katadyn BeFree™ LIMITED WARRANTY

2 YEAR LIMITED WARRANTY on Katadyn BeFree™

A) What is covered

Your Katadyn BeFree™ is warranted to be free from defects in materials and workmanship.

B) How long warranty coverage lasts

This warranty lasts two years from the date of purchase of your Katadyn BeFree™.

C) What Katadyn will do

In the event of a defect in material or workmanship within the two-year warranty period, Katadyn will either repair or replace the purchase price of your Katadyn BeFree™, at Katadyn's sole discretion.

D) What is not covered

This warranty does not cover any damage caused by product misuse, abuse or failure to follow instructions provided herein for proper use, maintenance, cleaning or storage. This warranty also does not cover, and expressly excludes coverage for, any incidental or consequential damages arising out of the purchase, use or performance of the product. Some state laws do not allow exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.

10 Katadyn BeFree™ LIMITED WARRANTY (CONTINUED)

E) How to get service

To receive coverage under this warranty, please return your Katadyn BeFree™ to the retailer where you purchased the product for repair or replacement. If you are not completely satisfied with the service you receive from your retailer, or if you have any questions regarding this warranty, please contact Katadyn Customer Service by telephone, email or in writing at:

Katadyn Products Inc.
 Pfäffikerstrasse 37
 8310 Kempthal
 Switzerland
 Phone: +41 44 839 21 11
customerservice@katadyn.ch

F) How state law applies

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

11 PRODUCT REGISTRATION & SPECIFICATIONS

Please take a moment to register your new Katadyn product by completing the short product registration form online at www.katadyn.com. The information you provide will enable us to better serve you with products developed to meet your needs and interests.

Please register your Katadyn product online at www.katadyn.com (**under service section**) and you will be automatically entered into a drawing to win a free Katadyn Group product. We will keep you informed of new products from Katadyn, Optimus and our dehydrated food brands (see our website for more details).

12 PRODUCT SPECIFICATIONS

Flow Rate:	Up to 1L of water per minute
Filter Capacity:	Depends on water quality
Weight:	59 g
Dimensions:	7 x 7 x 27.5

KATADYN GROUP

Log on to our website to learn more about our full line of products including Katadyn, Optimus Stoves and Trek'n Eat Foods.

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www.optimusstoves.com
www.trekneat.com
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