

WARNING

BIOLOGICAL HAZARD

There are hazards associated with backcountry travel and the use of water filters. Drinking untreated water may expose you to harmful microorganisms and increase your risk of gastrointestinal illness. Using this filter improperly increases your risk of exposure to harmful microorganisms and increases your risk of gastrointestinal illness. Reduce your chances of becoming sick by following the warnings and instructions in this manual and educating yourself on backcountry water safety.

YOU ARE RESPONSIBLE FOR YOUR OWN SAFETY AND THE SAFETY OF THOSE IN YOUR GROUP. PLEASE USE GOOD JUDGMENT.

Never use the HyperFlow Microfilter to filter seawater or chemically contaminated water, such as water from mining tailing ponds or near large agricultural operations. The HyperFlow Microfilter does not make drinkable water from these sources and does not remove all viruses, chemicals and radioactive materials, or particles smaller than 0.2 microns.

Keep the Inlet Hose and other potentially contaminated parts away from filtered manual before using this filter. Failure to follow warnings and instructions in this manual before using this filter. Failure to follow warnings and instructions may result in gastrointestinal illness.

IMPORTANT
Read and understand this entire manual carefully before assembling or using this water filter. Keep this manual for future reference. If you do not understand this manual or have any questions, please call Cascade Designs at 1-800-531-9531.

INSTRUCTION MANUAL



ENG

HYPERFLOW™ MICROFILTER

TROUBLESHOOTING

Problem	Poor Performance	Cause	Solution
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Decreased/no water flow
Collected particles
Backflush Filter Cartridge

Leaking Pump Inlet
Loose Pump Inlet
Tighten Pump Inlet

Leaking Pump Inlet
Debris in Check Valve Seal
Clean Check Valve Sealing Surfaces

Leaking Pump Cylinder
Loose Pump Piston
Replace Check Valve

Leaking Pump Cylinder
Missing Check Valve
Replace Check Valve

Pump Cylinder hard to pump
Clogged Pre-Filter
Clean Pre-Filter

Pump Cylinder hard to pump
Dry Friction O-Ring
Lubricate Friction O-Ring

Pump Cylinder pumps air, not water
Displaced Pre-Filter
Rotate hose at the Inlet Hose Barb or Pre-Filter until Inverted Check Valve (which relieves pressure and protects hollow fiber membranes)

Backflushing difficult
Topped air inside filter
Backflush cartridge and/or pump slowly

Backflushing difficult
Reverse Check Valves and pump to purge air from Filter Cartridge

Please refer to *Filter Cartridge Cleaning and Maintenance* for more information.

TIPS

Filter Cartridge

Clean the cartridge by backflushing it every 8 liters (1x/day of use) to prevent silt build-up and extend the filter's lifespan. (See *Filter Cartridge Cleaning and Maintenance*.) If back-flushing fails to restore water flow, replace cartridge.

On extended trips, bring along a spare cartridge, which can be purchased by a local or online MSR dealer.

Water Collection and Preparation

Use the cleanest, clearest water available. Avoid filtering silty, cloudy, muddy, or glacial stream water or tea-colored water that contains visible tannins because these sources will quickly clog the filter. If clear water is not available, then let particles settle before filtering. Fill a container with water and let the water stand until particles have settled to the bottom. Filter mid-container water and discard bottom sediments. Alternatively, collect and strain water through a banana or coffee filter to remove particles.

To treat water with suspected waterborne viruses, use an approved disinfectant. Follow the manufacturer's recommendation for its use. Information on disinfectant use can be found on the Centers for Disease Control Web site: www.CDC.gov.

Operation

In swift water, the Pre-Filter should plane in the current, taking in water from or just below the surface for better performance.

NOTE: When pumping in strong currents, hold firmly onto Inlet Hose and pump carefully to avoid losing the pump assembly or Pre-Filter.

If the Pump Cylinder pumps air instead of water, wet the Pre-Filter completely, submerge Cylinder, position the pump vertically with the Pump Outlet on top and purge the pump with 2 full strokes to remove the trapped air and restore flow rate.

Alternate Collection Methods

To avoid cross contamination when filtering water, MSR recommends these collection methods:

Quick Connect™ Bottle Adapter (MSR® Bromedary™ Bag, Nalgene® bottles)

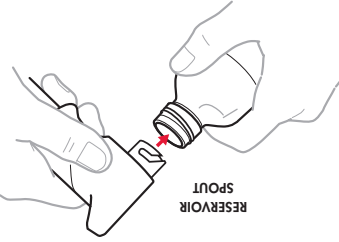
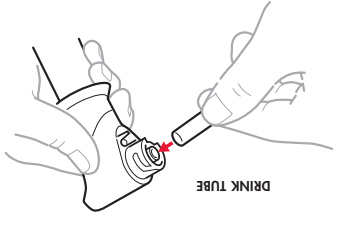
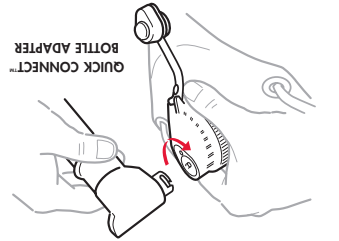
Replace the cap on the Bromedary Bag with the Quick Connect™ Bottle Adapter. Remove Clean Side Cover. Remove Bottle Adapter Plug and connect Outlet Adapter to the Quick Connect Bottle Adapter. Install Clean Side Cover onto Bottle Adapter Plug. Follow **Steps 1-3** (instruction manual). After the water is filtered and collected, close the Bottle Adapter Plug.

Drink Tube (Platypus®, CamelBak® hands-free hydration systems)

Remove the Bite Valve and store in a clean place. Push the end of the Hydration Drink Tube onto the Outlet Nipple. Follow **Steps 1-3** (instruction manual). After the water is filtered and collected, reinstall Bite Valve.

Reservoir Spout (Platypus® Hoser™, most water bottles)

Push Outlet Adapter into Reservoir Spout. Follow **Steps 1-3** (instruction manual). After the water is filtered and collected, close cap on bottle.



SPECIFICATIONS

Kit Contents	MSR® HyperFlow™ Microfilter Quick Connect™ Bottle Adapter Clean Side Cover Inlet Hose Pre-Filter Instruction Manual Filter Test Guide Storage Sack with Quick Reference Guide
Weight	Kit – 10.2 oz. / 289 g Pump + Pre-Filter – 7.4 oz. / 210 g
Dimensions	Kit – 8.5 x 3.3 x 2.5 in / 21.6 x 8.4 x 6.4 cm Pump + Pre-Filter – 7 x 2.7 x 2.1 in. / 17.8 x 6.9 x 5.3 cm
Flow Rate	~ 3.0 liters per min. (depends on filter condition, water quality)
Filter Life	~ 1000 liters (depends on water conditions)
Filter Media	Hollow Fiber Membrane (HFM)*
Storage Temperature	Above 32 F / 0 C (Do Not Freeze)
Patents	Patents pending

*The Hollow Fiber Membrane (HFM) is a collection of small, porous tubes that can be damaged by dropping or freezing. This damage cannot be seen. Follow Filter Test Guide to inspect filter and detect possible damage.

Accessories available but sold separately MSR® HyperFlow™ Gravity Kit, MSR® HyperFlow Maintenance Kit, replacement parts

LIMITED WARRANTY/LIMITATIONS OF REMEDIES AND LIABILITY USA and Canada

Limited Warranty. Cascade Designs, Inc. ("Cascade"), to the original owner ("Owner"), under intended use and maintenance, warrants the enclosed product ("Product") to be free from defects in materials and workmanship for the life of the Product. No warranty against defects in materials and workmanship will apply if Product is (i) altered in any way, (ii) used for purposes inconsistent with Product's intended purpose or design, or (iii) improperly maintained. Warranty will furthermore be voided where Owner/user (i) failed to follow Product instructions or warnings or (ii) subjected Product to misuse, abuse, or neglect.

During the warranty period, original Product parts determined by Cascade to be defective in materials or workmanship will be repaired or replaced as Owner's sole remedy. Cascade reserves the right to replace any discontinued product with a new product of comparable value and function. A returned product deemed irreparable becomes the property of Cascade and will not be returned.

EXCLUDING THE LIMITED WARRANTY PROVIDED ABOVE, CASCADE, ITS AFFILIATES AND THEIR SUPPLIERS, TO THE MAXIMUM EXTENT PERMITTED BY LAW, MAKE NO WARRANTIES, EXPRESSED OR IMPLIED, AND DISCLAIM ALL WARRANTIES, DUTIES AND CONDITIONS, WHETHER EXPRESSED, IMPLIED OR STATUTORY, WITH RESPECT TO THE PRODUCT, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, AGAINST LATENT DEFECTS, FITNESS FOR A PARTICULAR PURPOSE, OR CORRESPONDENCE TO DESCRIPTION.

Warranty Service. To obtain service under this warranty, the warranty-eligible Product must be presented to a Cascade authorized dealer. In the United States and Canada, warranty service may also be obtained by calling 1.800.531.953 [M - F, 8:00 a.m. - 4:30 p.m., PDT]. Owner is responsible for all costs associated with returning Product to Cascade for service. Where at its sole discretion Cascade deems Product eligible for warranty repair or replacement, Cascade will pay the shipping and handling associated with returning repaired or replaced Product to Owner. In instances where Cascade deems a returned product ineligible for warranty service, Cascade will, if possible, repair product for a reasonable charge that includes return shipping and handling. For warranty return service details, please go to www.msrgear.com.

Limitation of Remedies. Should a court of competent jurisdiction find the limited warranty set forth above breached, Cascade's only obligation will be to, at its option, either repair or replace Product. Should the aforementioned remedy fail of its essential purpose, Cascade will, in exchange for return of Product, refund to Owner Product's original purchase price. THE FOREGOING REMEDY IS THE SOLE AND EXCLUSIVE REMEDY OF THE PURCHASER AGAINST CASCADE, ITS AFFILIATES AND THEIR SUPPLIERS, REGARDLESS OF LEGAL THEORY.

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This limited warranty gives Owner specific legal rights; Owner may have additional rights, which may vary state to state.

Always completely follow safety, use, operation, and maintenance instructions for this or any other Cascade product.

European Union customer statutory rights are not affected.

For product service and information contact

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1-800-531-9531 or 206-505-9500

Cascade Designs, Ltd.
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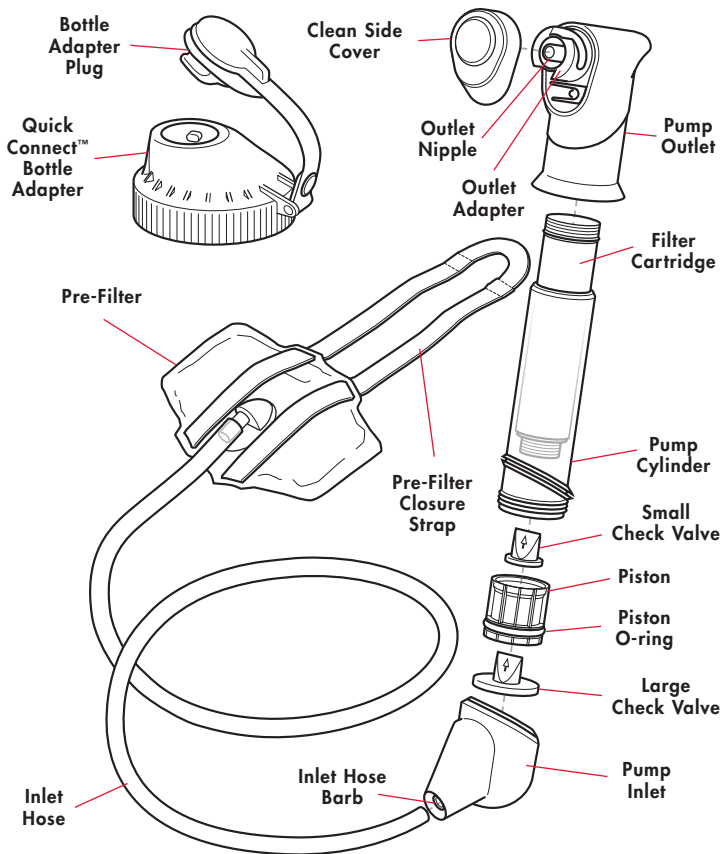


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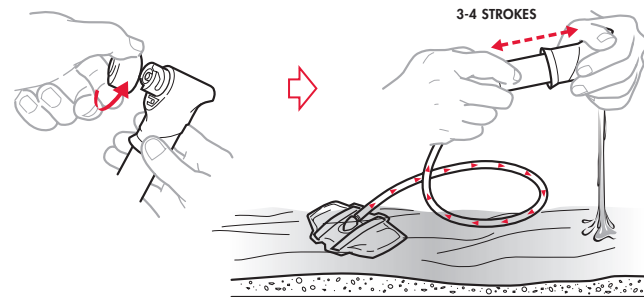
KNOW YOUR MSR® HYPERFLOW™ MICROFILTER



MSR® HYPERFLOW™ MICROFILTER OPERATING INSTRUCTIONS

1 PREPARE FILTER

1. Connect open end of Inlet Hose to Inlet Hose Barb.
2. Unscrew the Clean Side Cover from the Pump Outlet.
↳ Install Clean Side Cover onto Bottle Adapter Plug to prevent cross contamination when filtering. (See Step 2 illustration.)
3. Place Pre-Filter (screen side down) in water. If possible, avoid fast currents to prevent accidental loss of Pre-Filter.
4. Pump filter 3 to 4 strokes to prime pump assembly, flush Outlet Nipple, and wet Pre-Filter.



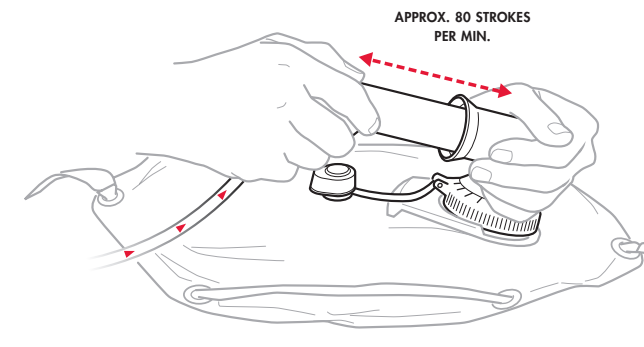
⚠ WARNING

Handle pump carefully because a damaged filter cannot prevent exposure to harmful microorganisms. Always test filter for damage if dropped outside of pump housing. Test filter for damage if pump is dropped 3 feet (0.9 meter) or greater onto a hard surface. (See Filter Test Guide.) If filter is damaged, discontinue use and replace Filter Cartridge.

2 FILTER WATER

The HyperFlow Microfilter is sold with a Quick Connect™ Bottle Adapter, which can be used with a variety of containers. To avoid cross contamination when filtering water, MSR recommends several safe collection methods. (See *Tips*.)

1. Attach a clean container to Outlet Adapter or Outlet Nipple. (See *Tips*.)
2. Grasp the Pump Outlet firmly with one hand and the Pump Inlet with the other hand.
3. Pump the filter to filter water (about 80 strokes/minute for optimal performance).



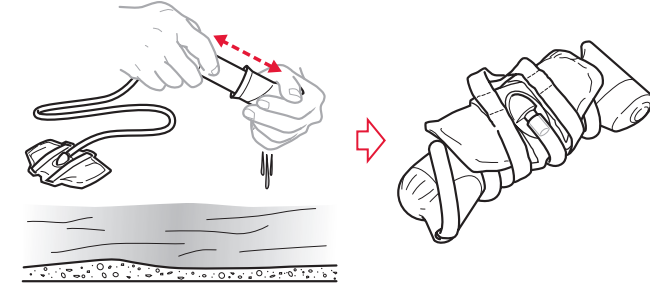
⚠ WARNING

When filtering water, never splash dirty or unfiltered water into clean container to avoid contamination.

3 PACK AND STORE PUMP ASSEMBLY

1. Remove Pre-Filter from water.
2. Pump filter to purge it of any remaining water.
3. Reattach Clean Side Cover to the Outlet Adapter.
4. Wind Inlet Hose around Pump Cylinder.
↳ Wrap Pre-Filter Closure Strap around Pre-Filter and Inlet Hose to secure pump assembly.
5. Place pump assembly in storage sack.
↳ Store Bottle Adapter in sack pocket.

After each trip and before long-term storage, backflush the Filter Cartridge. (See *Filter Cartridge Cleaning and Maintenance*.)



⚠ WARNING

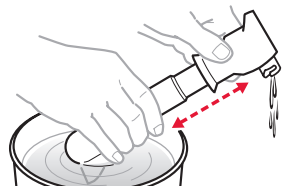
Never store Filter Cartridge in cold temperatures (below 32 F/0 C) because freezing the filter will permanently damage the internal fibers. Always wash and dry filter parts.

4 DISINFECT FILTER

To eliminate the growth of bacteria or mold, always disinfect the filter before or after long-term storage, or after long-term use (15+ consecutive days).

1. Mix a solution of 2 drops of household bleach to 1 liter of water.
2. Remove Inlet Hose from Inlet Hose Barb.
3. Pump diluted bleach solution through filter.
4. Remove Pump Inlet from container.
↳ Pump filter to purge it of any remaining solution.
↳ Reattach Inlet Hose to Inlet Hose Barb.
5. Air or towel dry all pump assembly parts completely.
NOTE: The inside of the Filter Cartridge will not dry completely, but the bleach in the solution will prevent the growth of harmful microorganisms.
6. Pack and store pump assembly in storage sack.
↳ Attach Clean Side Cover onto Outlet Adapter.

PUMP DILUTED BLEACH SOLUTION



⚠ WARNING

Disinfect filter thoroughly before long-term storage to prevent the growth of mold, mildew, and bacteria. Never use a dishwasher or microwave to disinfect parts because the high heat will damage or melt them.

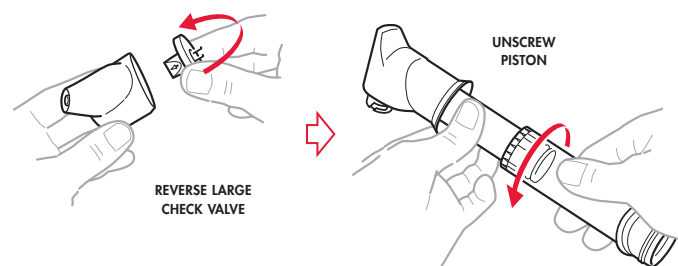
FILTER CARTRIDGE CLEANING AND MAINTENANCE

The HyperFlow Microfilter requires regular cleaning and maintenance to function properly. Cleaning and maintenance depends on frequency of use and water quality. The filter will gradually clog during use, especially when filtering water from glacial streams and cloudy or tea-colored water. For optimal long-term performance, backflush the Filter Cartridge every 8 liters (1x/day of use) to prevent silt build-up and extend the filter's lifespan. If flow rates stay below 1 liter/min. after backflushing, replace Filter Cartridge to restore flow rates. Replacement parts can be found in the MSR® HyperFlow™ Maintenance Kit, purchased separately from a local or online MSR dealer.

BACKFLUSHING THE FILTER CARTRIDGE

Always perform backflushing in a controlled area to prevent the loss of small parts.

1. Collect ½ liter of filtered water into a clean MSR recommended container. (See *Tips*.)
2. Remove Inlet Hose and unscrew Pump Inlet from Pump Cylinder. **DO NOT PUMP because trapped air will hamper operation.** (See *Troubleshooting*.)
3. Reverse the Large Check Valve and reinstall it inside Pump Inlet.
4. Pull Pump Cylinder to end of stroke and turn until Piston locks.
↳ Use cylinder to unscrew Piston from Filter Cartridge to reach Small Check Valve.
5. Reverse the Small Check Valve and reinstall it inside Piston.
6. Thread Pump Cylinder (with Piston and reversed valve) carefully onto the Filter Cartridge.
NOTE: Both tips of Large and Small Check Valves should point toward the Pump Inlet.



7. Thread Pump Inlet onto the Pump Cylinder. **AGAIN, DO NOT PUMP AIR INTO PUMP.** (See *Troubleshooting*.)

8. Connect container with filtered water to Outlet Adapter (or Outlet Nipple).

If using a hard bottle (Nalgene®), invert container to keep any air from Outlet Nipple.

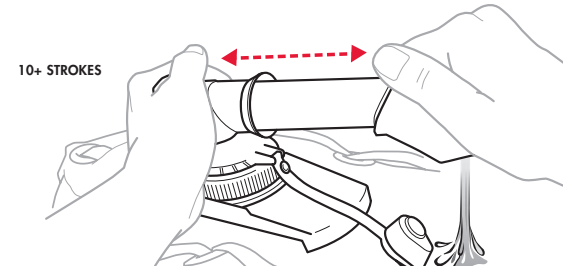
If using a flexible water system (MSR® Dromeday™ Bag with Quick Connect™ Bottle Adapter), purge air from the bag before attaching Outlet Adapter.

If using a personal hydration system (Platypus® Big Zip SL™, CamelBak®), remove Bite Valve, purge air from bag and Drink Tube, and attach Drink Tube directly onto Outlet Nipple.

9. Pump 10+ full strokes of filtered water to flush Filter Cartridge.

Wait for Pump Cylinder to fill with water during each stroke.

When backflushing is completed, disassemble pump and reinstall the Large and Small Check Valves in their original, forward flow position. Dry pump assembly and then reassemble. CAUTION: Protect Filter Cartridge from accidental drops, which may damage the filter.



CLEANING THE CHECK VALVES

1. Unscrew Pump Inlet.
↳ Gently pull the Large Check Valve to remove it.
2. Unscrew Piston from Filter Cartridge.
↳ Gently pull the Small Check Valve to remove it.
3. Rinse all pump parts and Check Valves thoroughly.
4. Press both Check Valves firmly back into place and reassemble.

For forward flow, both valve tips should point toward the Pump Outlet.

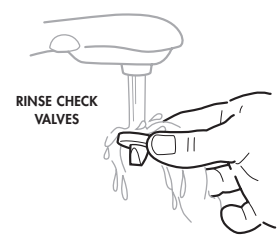
For backflushing, both valve tips should point toward the Pump Inlet.

CLEANING THE PRE-FILTER

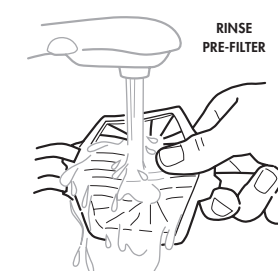
Rinse Pre-Filter in clean water and air dry.

LUBRICATING THE PISTON O-RING

1. Unscrew Pump Inlet from Pump Cylinder.
2. Slide Pump Cylinder toward Pump Outlet to expose Piston O-ring.
3. Lubricate Piston O-ring and reassemble pump.
Use MSR Water Filter Silicone Lubricant (available in the MSR® HyperFlow™ Maintenance Kit), lip balm or petroleum jelly.



RINSE CHECK VALVES



RINSE PRE-FILTER



LUBRICATE PISTON O-RING