

# GRAVITYWORKS™

## 4.0L/6.0L SYSTEM

### PUMP-FREE MICROFILTER SYSTEM

#### TIPS

##### WATER COLLECTION AND PREPARATION

Use the cleanest, clearest water available. Avoid water that is muddy, silty or tea-colored if possible.

To treat water with suspected waterborne viruses, use an approved disinfectant such as MSR® Aquatabs® ([www.msrgear.com](http://www.msrgear.com)). Follow the manufacturer's recommendation for its use. Information on disinfectant use can be found on the Centers for Disease Control website: [www.CDC.gov](http://www.CDC.gov).

##### OPERATION

To maximize water flow, hang or hold the Dirty Reservoir as high as possible without putting tension on the hoses or pulling the clean container off the ground.

Trapped air in the top of the Filter Cartridge may reduce water flow. Purge trapped air at the beginning of each use (see step 3).

"Dirty"-side connection points are GREY or BLACK and "Clean"-side connection points are BLUE or WHITE. To avoid cross contamination when filtering water, do not let any BLUE/WHITE components come into contact with unfiltered water and keep GREY/BLACK components away from filtered water. If you suspect your filter has become cross contaminated, see instructions for Disinfection & Long-Term Storage.

##### DIRECT HYDRATION RESERVOIR FILL

Remove the Bite Valve and store in a clean place. Remove Clean Hose from Filter Cartridge and attach Hydration Drink Tube to Clean Hose Barb. Follow steps 1-2.

After the water is filtered and collected, reinstall Bite Valve. Reattach Clean Hose to Filter Cartridge and store.

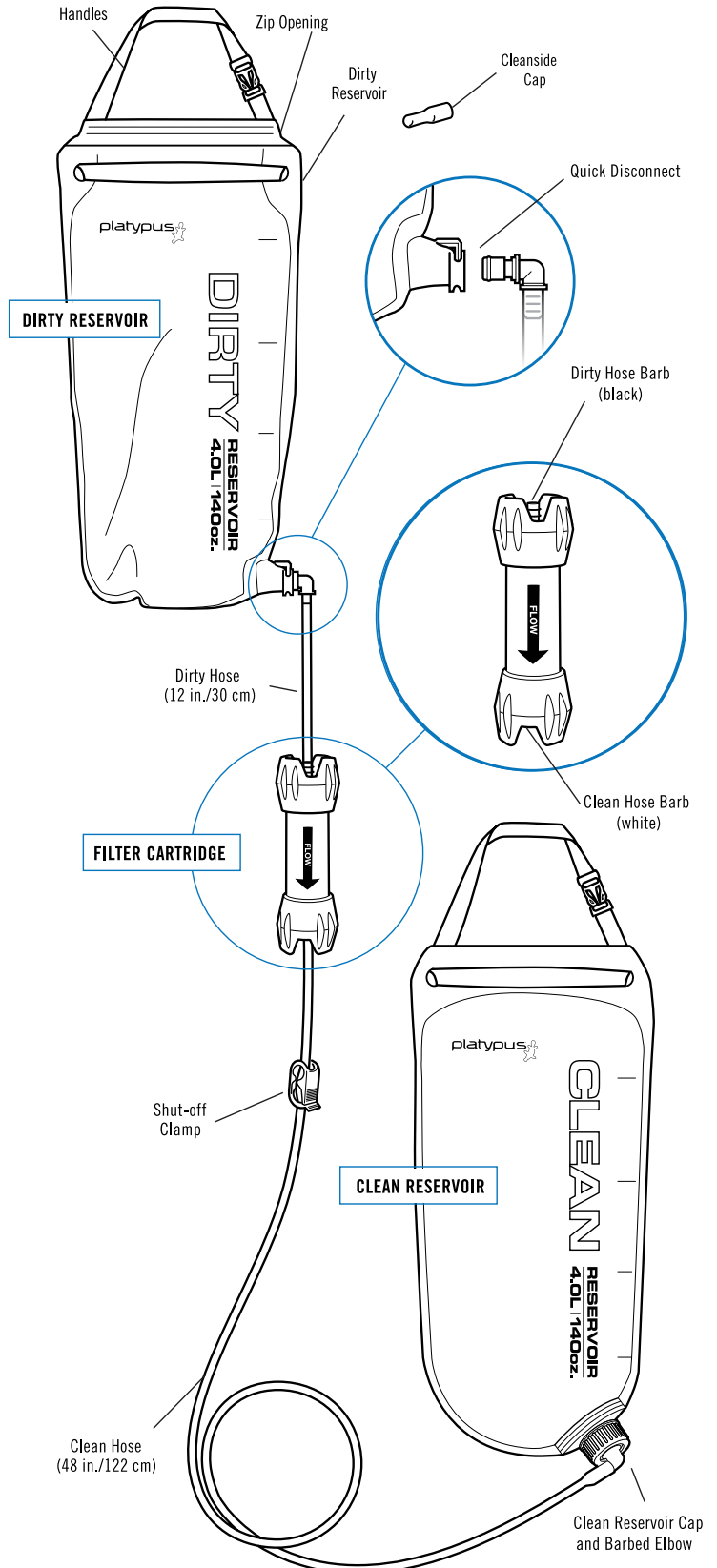
For direct connection to Big Zip™ EVO Reservoir, use the Platypus Big Zip™ EVO Water Filter Connector Kit.

##### FILTER CARTRIDGE

Clean the cartridge by following backflushing procedure to prevent silt build-up and extend the filter lifespan (see step 3). If backflushing fails to restore water flow, replace cartridge. On extended trips, bring along a spare cartridge.

If the cartridge freezes or is dropped hard, test it to be sure it is not damaged by following the Filter Integrity Test instructions.

#### GRAVITYWORKS KIT INCLUDES:



## ! 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 GravityWorks™ to filter seawater or chemically contaminated water, such as water from mining tailing ponds or near large agricultural operations. The GravityWorks 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 hoses and other potentially contaminated parts away from filtered water to prevent cross contamination.

READ, UNDERSTAND, AND FOLLOW ALL instructions and warnings in this manual before using this filter. Failure to follow warnings and instructions may result in gastrointestinal illness.

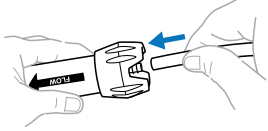
### IMPORTANT

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.

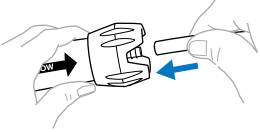
## STEP 1 INITIAL ASSEMBLY

01. Connect open end of shorter Dirty Hose to black Dirty Hose Barb.

**NOTE:** Arrow (water flow direction) on Filter Cartridge should point toward Clean Reservoir.

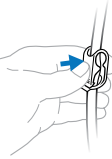


02. Connect longer Clean Hose to white Clean Hose Barb.



03. Connect Clean Reservoir Cap to Clean Reservoir.

04. Close Shut-off Clamp on the Clean Hose. **See step 5,** for recommended travel mode.



### WARNING

Handle Filter Cartridge carefully because a damaged filter cannot prevent exposure to harmful microorganisms. Test filter for damage if dropped 5 feet (1.5 meters) or greater onto a hard surface. (See Filter Integrity Test.) If filter is damaged, discontinue use and replace cartridge.

## STEP 2 FILTER WATER

01. Remove the Quick Disconnect from the Dirty Reservoir, if attached.
02. Fill Dirty Reservoir with the cleanest water available. Zip closed.
03. Hang or hold Dirty Reservoir by its Handles.
04. Reconnect the Quick Disconnect to Dirty Reservoir. Attach Clean Reservoir Cap; Shut-off Clamp should be securely closed.
05. Open Shut-off Clamp to start water flow. Allow water to flow down from Dirty Reservoir through Filter Cartridge into Clean Reservoir.
06. Purge air from filter; **see step 3.**



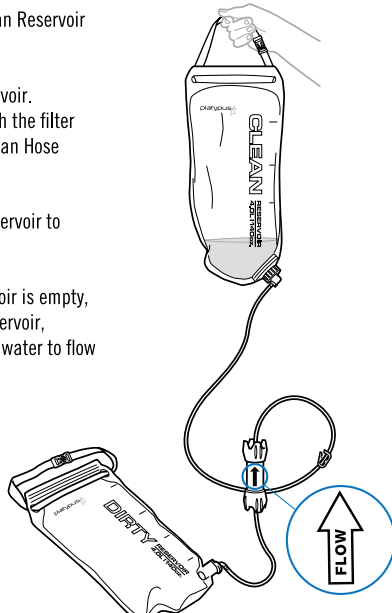
### WARNING

To avoid contamination when filtering water, never splash dirty or unfiltered water into clean container.

## STEP 3 PURGE AIR AND BACKFLUSH

Purge air from filter for maximum flow, then finish with a backflush to increase the life of your filter. Depending on the water clarity/quality, backflush a ¼ liter of water for every 6 L filtered.

01. Filter small amount of water into Clean Reservoir (approx. 1/4 L. See step 2)
02. Lift Clean Reservoir above Dirty Reservoir. Allow clean water to flow back through the filter until air bubbles have cleared the Clean Hose above the filter.
03. Hang Dirty Reservoir above Clean Reservoir to continue filtering.
04. To backflush: Just before Dirty Reservoir is empty, hang Clean Reservoir above Dirty Reservoir, unzip/open Dirty Reservoir, and allow water to flow out until it runs clear.



## STEP 4 DISPENSE

Water in the Clean Reservoir can now be used as in-camp water source for cleaning, drinking, or cooking.

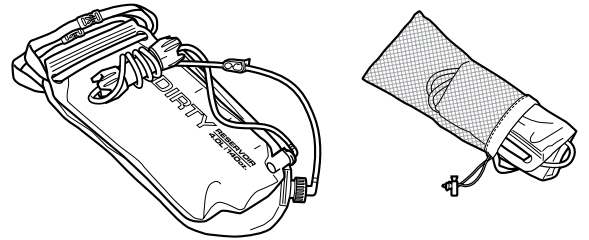
01. Close Shut-off Clamp after all water has been filtered.
02. Remove Clean Hose from Clean Hose Barb. Push Cleanside Cap onto Clean Hose Barb (or Rinse Clean Hose Barb thoroughly with clean filtered water before later reinstalling Clean Hose).
03. Hang Clean Reservoir by handles. Open Shut-off Clamp to start water flow.
04. For direct hydration reservoir fill, see Tips on reverse side.



## STEP 5 PACK AND STORE

**NOTE:** Keep all parts (reservoirs, hoses, cartridge) connected to prevent cross contamination.

01. Empty all water from system.
02. Lay both reservoirs flat on top of each other.
03. Roll both reservoirs around Filter Cartridge and hoses and place in the storage sack.
04. Always disinfect the filter before or after long-term storage, or after long-term use (15+ consecutive days). **See Step 6.**



### WARNING

Never allow Filter Cartridge to freeze because freezing the filter will permanently damage the internal fibers. Always wash and dry filter parts after use.

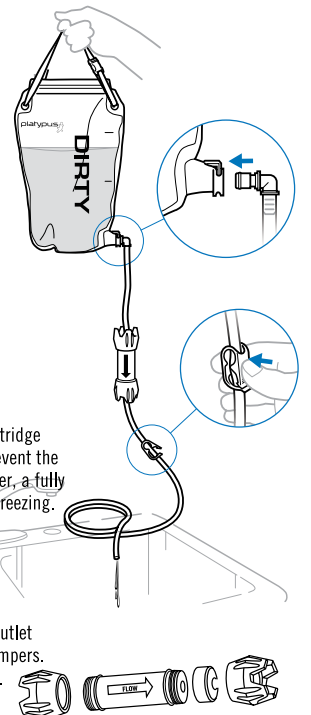
## STEP 6 DISINFECT FILTER

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

01. Remove the Quick Disconnect from the Dirty Reservoir.
02. Rinse Dirty Reservoir with clean water.
03. Mix a solution of 2 drops of household bleach (without fragrance or dyes) to 1 liter of water in Dirty Reservoir, and zip closed. **Note:** Handle bleach carefully as it can discolor clothing.
04. Assemble GravityWorks system with Shut-off Clamp closed.
05. Place end of Clean Hose in sink and hold or hang Dirty Reservoir above sink.
06. Open Shut-off Clamp and let bleach solution filter through system into sink.
07. Rinse all other parts with clean water.
08. Air or towel dry GravityWorks system parts completely.

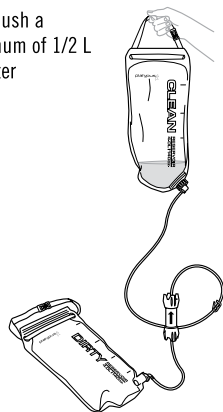
**Note:** It is not necessary for the inside of the Filter Cartridge to dry completely, as the bleach in the solution will prevent the growth of harmful microorganisms and biofilm. However, a fully dry filter helps protect against damage from drops or freezing. To dry filter completely after disinfection:

- Remove gray protective bumpers from filter.
  - Remove white and black thread-on caps and let filter sit at room temperature for at least 1 week.
  - To avoid cross contamination, replace white cap on outlet of filter, black cap on inlet side. Replace protective bumpers.
09. Pack and store GravityWorks assembly in storage sack.

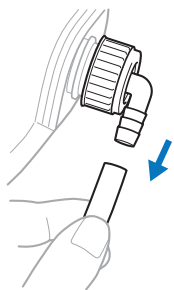


## FILTER INTEGRITY TEST

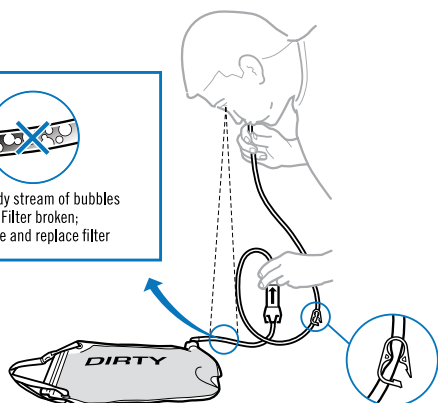
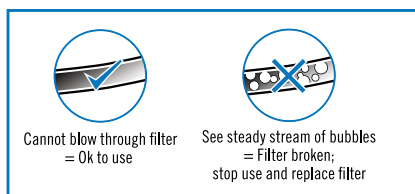
01. Backflush a minimum of 1/2 L of water



02. Remove Clean Hose



03. Blow air and check.



## TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Leaking Quick Disconnect	Clogged Quick Disconnect	Rinse Quick Disconnect

PROBLEM	CAUSE	SOLUTION
Decreased/ no water flow	Trapped air in Filter Cartridge	Filter 1/8 L water into Clean Container and then lift it above Dirty Reservoir to purge air (see step 3)

	Clogged filter	Backflush Filter Cartridge (see step 3)
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	Kinked hose	Straighten hose
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	Disengaged Quick Disconnect	Push Quick Disconnect into fitting completely
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	Closed Shut-off Clamp or Push/Pull Cap	Open Shut-off Clamp or Push/Pull Cap
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## SPECIFICATIONS

### GRAVITYWORKS™ 4.0L

<b>KIT CONTENTS</b>	Dirty Reservoir
	Quick Disconnect fitting
	Clean Reservoir with Reservoir Cap
	Filter Cartridge
	Dirty Hose (12 in / 30 cm)
	Clean Hose (48 in / 122 cm)
	Shut-off Clamp
	Cleanside Cap
	Instruction Manual
	Storage Sack

**WEIGHT** 12 oz / 340 g

**DIMENSIONS** 10.0 x 4.0 in. / 25.4 x 10.1 cm

**FLOW RATE** 1.75 liters per min. (depends on filter condition, water quality)

**FILTER LIFE** 1500 liters (depends on water conditions)

**FILTER MEDIA** Hollow Fiber Membrane

**STORAGE TEMPERATURE** Above 32° F / 0° C (Do Not Freeze)

### GRAVITYWORKS™ 6.0L

Dirty Reservoir
Quick Disconnect fitting
Clean Reservoir with Reservoir Cap
Filter Cartridge
Dirty Hose (12 in / 30 cm)
Clean Hose (48 in / 122 cm)
Shut-off Clamp
Cleanside Cap
Instruction Manual
Storage Sack

12.5 oz / 356 g

11.5 x 6.5 in / 29.2 x 16.5 cm

1.75 liters per min. (depends on filter condition, water quality)

1500 liters (depends on water conditions)

Hollow Fiber Membrane

Above 32° F / 0° C (Do Not Freeze)

## 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 1.800.531.9531 [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.platy.com](http://www.platy.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.

**Limitation of Liability.** Cascade's, its affiliates' and their suppliers' maximum liability is limited to incidental damages not to exceed the original purchase price of the Product. CASCADE, ITS AFFILIATES AND THEIR SUPPLIERS HEREBY DISCLAIM AND EXCLUDE ANY LIABILITY FOR ANY CONSEQUENTIAL OR OTHER DAMAGES RESULTING FROM ANY REASON WHATSOEVER. THIS EXCLUSION AND LIMITATION APPLIES TO ALL LEGAL THEORIES UNDER WHICH DAMAGES MAY BE SOUGHT, AND WILL APPLY EVEN IF ANY REMEDY FAILS OF ITS ESSENTIAL PURPOSE.

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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