

## Eco Water

*Think green!*

Eco Water is Norwegian company, specialized in developing and distributing water purification systems for several uses and settings.

Eco Water can offer a unique range of high quality water purifications systems. We provide solutions for private households, for cabins and boats, for medical/dental use to name just a few. We can also develop specialized systems according to our customer's special needs.

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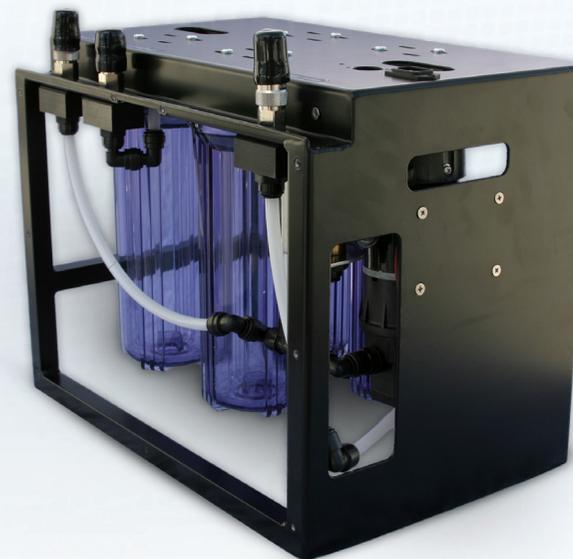
 John Guest®

 Doulton  
world class ceramic filters

 British Berkefeld  
world class ceramic filters

## Eco Rescue Flex

*Think green!*



Users manual  
Filter Configuration 1 / 2

## INTRODUCTION

**Smaller. Lighter. More customizable.**

- a new mobile water purification system developed in collaboration with advisors from the military, humanitarian organizations and Norwegian universities.

Eco Rescue Flex provides clean and safe drinking water in the field, from any fresh water source. Ideal for use in field camps, field hospitals, mobile kitchens etc. The unit's compact design makes it suitable as standard equipment in all kinds of vehicles.

Eco Rescue Flex can be delivered with different filter configurations. Both configurations remove/control the levels of pathogenic bacteria, parasites, cysts, dangerous metals and chemicals. The system can also be delivered with a filter configuration that also removes 100% of viruses - a truly unique feature compared to other portable purification units available. This makes the unit suitable for situations that require "ultra clean" water (i.e. medical use/hospitals).

Eco Rescue Flex is designed to be customizable for individual needs. No need to carry a power adaptor if there's no electrical power available...! In most situations our standard filter configuration is sufficient - but should you need it, the unit can protect you from viruses as well...

**The Eco Rescue Flex purification system includes:**

Inlet hose with pre-filter, 4 Eco Rescue filters (configuration depending), detachable tap, outlet hose with tap. Versatile accessories / power options available (12V, 24V (NATO socket) 230V, manual handle).

**Measurements:**

Frame: H: 37cm, W: 44 cm, D: 30 cm  
 With case: H: 46cm, W: 52 cm, D: 38 cm  
 Weight: From 10 kg

**Capacity\*:**

3-6 liters per minute. Up to 10 000 liters before replacement of filter cartridges.  
 \*) Capacity depends on filter configuration and water quality. Purified water will be safe to drink as long as the system delivers water through its filters. Taste, colour and odour may appear at an earlier stage, depending on input water quality (still safe to drink).



## TECHNOLOGY

Eco Rescue is a multistage water filtration system that removes or reduces all contaminants (bacteria, chemicals and metals) in water through electrochemical processes (reduction, oxidation, adsorption, absorption and mechanical filtration).

The system is made up of several components with different characteristics, which together makes a very efficient and compact water purifier. All components are produced by well known international manufacturers and thus the purification statistics are very well documented.

The Eco Rescue uses a mixture of new and existing technology to produce top quality drinking water. In all other filtration systems that utilize ceramic filters these have to be put before the other active stages to avoid bacterial colonization. Uniquely, the design of the Eco Rescue allows us to put the ceramic downstream after the redox alloy giving greatly enhanced removal of some precipitates.

The components are manufactured by leading companies. Independent tests by highly regarded institutes and associations have proven high performances on the removal of: bacteria, chemicals, metals, protozoan cysts, turbidity, unpleasant taste and odour.

**Think Green**

Contains no hazardous materials.  
 All components are 100% recyclable.

Eco Rescue can be delivered in 2 different filter configurations.

**Configuration 1:**

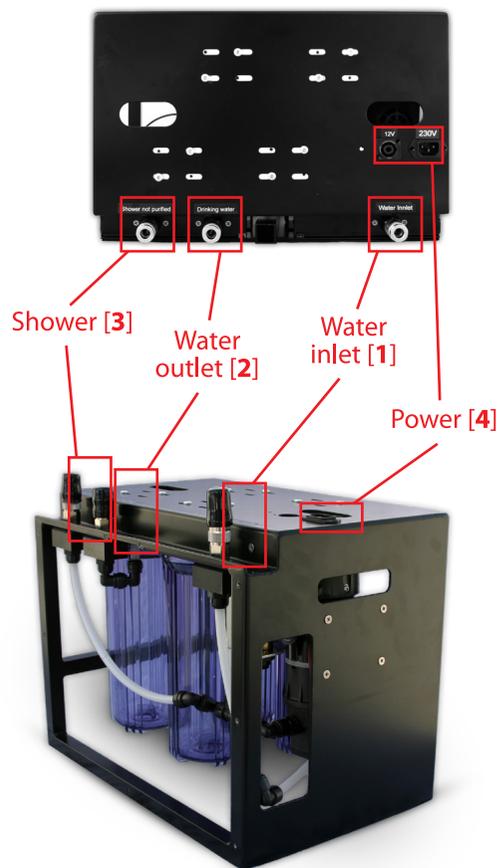
1. Pre-filter 5µm
2. Pre-filter 1µm
3. GAC filter
4. HP filter
5. Ceramic filter

**Configuration 2:**

1. Pre-filter 5µm
2. Pre-filter 1µm
3. HP filter
4. Ceramic filter
5. Virus filter

# ECORESCUE FLEX

## Overview:



## Accessories:

Inlet hose (A)  
with prefilter



Outlet hose (B)  
w/tap



Shower (C)\*  
not purified water



Manual pump handle (D)\*  
with mounting plate



Case (E)\*



Power cable (H)\*  
For 12V



\*) Available options

Power cable (F)\*  
For 230V



Power adapter (G)\*  
For 12V -> 230V



# INSTALLATION

The inlet hose (A) [connection 1] is approximately five meters in length and has a pre-filter attached at one end. This pre-filter should be placed in the water source.

Connect the outlet hose (B) to [connection 2]. This outlet delivers purified water.

The unit also has a shower with hose (C) [connection 3].

(NB! the shower does not deliver purified water)

Eco Rescue is powered by either:

- Electric power [connection 4]. 12V and/or 230V. (optional: 24 V standard NATO socket.)
- The hand pump (E). Mounts on mounting plate.

# OPERATION

Eco Rescue should always be handled, stored and used in an upright position.

Once the unit has been used, the housings should never be drained completely of water and left empty for any length of time.

**NB! The unit does not tolerate frost.**

If the unit has not been used for a couple of days or longer, let the water flow for about 3-5 minutes before starting to collect it.

Mount the hand pump (E) or connect [connection 4] to a suitable power source.

Place the pre-filter on the inlet hose (A) in the water source. Collect purified water from the outlet hose (B).

You can also use the shower (C), but this outlet source [connection 3] DOES NOT DELIVER PURIFIED WATER! The shower can be used to clean the ceramic filters. To use the shower for cleaning the filters, you have to put the filter housing back in its place while using the shower. If the filter housing is open, the shower will not work.

## Safety valve

The unit's filter system has a safety valve, to avoid damaged pipes, filters and housings, caused by too much pressure in the unit. When using the hand pump, the valve will "blow" at approx 9 bar. If this happens, the valve will release water. When using the electrical pump, the pump will automatically stop when the pressure rises above 6 bar. The filters must be cleaned or replaced if any of these two scenarios occur (the pressure is worked up because the filters are clogged, so the water doesn't come out of the outlets).

## MAINTENANCE

The filters in your Eco Rescue water purification system must be cleaned from time to time. Cleaning is easy – no special service personnel are necessary. The quality of the water source(s) decides how frequent it is necessary to clean the filters.

The filters have to be replaced if the purification system delivers no water at all, or when the water flow is low even after cleaning the filters (water source dependent).

Soon after the purification system has been put to use for the first time you will experience a noticeable drop in the water pressure. This is expected due to residue (from production) from the High performance filter that is clogging up the ceramic filter. It is thus necessary to clean the ceramic filter relatively short after put to use the first time, or after filter change. The system will deliver purified water in a much longer period after this first removal of production residue. The quality of the water source decides how frequent it is necessary to clean the filters.

## CLEANING THE FILTERS

### Pre-filter (B) on inlet hose (A)

It is unlikely that the pre-filter (B) on the inlet hose (A) will be blocked, unless the unit has been used in extremely turbid water or has been used extensively since service. If the pre-filter appears blocked, it should be replaced. Unscrew it from the inlet hose and replace it with a new filter.

### Ceramic filter

If used with electricity, disconnect the power source [connection 4] from the unit. Release water pressure in the system by opening the tap (C). Lift the unit out of the case.

- Open the filter housing using the enclosed tool.
- Remove the filter from the filter housing. Handle the filter with great care – it can easily break.
- Use the enclosed sponge to clean the filter with fresh water. Do not use soap or chemicals! Rub the filter surface a couple of times.
- Put the filter back in the filter housing. Make sure to place the filter in the correct direction – see writing on the filter.

**CONFIGURATION 2** Ceramic filter      **CONFIGURATION 1** Ceramic filter



- Reattach the filter housing to the unit. Tighten with the enclosed tool (it's sufficient to tighten by hand). Make sure the housing is placed correctly. If the housing is attached askew, or the O-ring or filter is placed incorrectly, a leak will probably occur.
- Using either the hand pump (F) or the electrical power source (G, H), let the water flow for about 3 minutes (this removes dirt, particles etc.)

Make sure that there are no leakages from the filter housings.

## FILTER REPLACEMENT

If used with electricity, disconnect the power source [connection 4] from the unit. Release water pressure in the system by opening the tap (C). Lift the unit out of the case.

- Open the filter housings using the enclosed tool.
- Remove the filters from the filter housings. Handle the Ceramic filter with great care – it can easily break.
- Replace the filters with new ones. Make sure to place the filter in the correct direction – see writing on the filters.
- Re-attach the filter housings to the purification unit. Tighten with the enclosed tool (it's sufficient to tighten by hand). Make sure the individual filters are placed in the right order (see numbers on frame). The filters shall be placed as follows (depending on filter configuration):

### Configuration 1:

2. Pre-filter 1µm
3. GAC filter
4. HP filter
5. Ceramic filter

### Configuration 2:

2. Pre-filter 1µm
3. HP filter
4. Ceramic filter
5. Virus filter

- Make sure the housings are placed correctly. If the housings are attached askew, or the O-rings or filters are placed incorrectly, a leak will probably occur.
- Using either the hand pump (F) or the electrical power source (G, H), let the water flow for about 5 minutes (this removes dirt, particles etc.)

Make sure that there are no leakages from the filter housings.