Water On The Road

Motorhome, Caravan & Campervan, Etc. Water Purification, Sterilisation & Treatment Systems

Bacteria **E**liminating **S**ilver **T**reatment

B.E.S.T. Water Filters **1800 240 822** 0428 240 822
PO Box 2326, Southport BC, Qld 4215
www.bestwaterfilters.com.au info@bestwaterfilters.com.au

Contents

Written by Colin Hopgood.

Printed: 10 September, 2013

Copyright © 2013 Colin Hopgood. All Rights Reserved. v.1

Is there REALLY a need for a water filter?

When I installed my first water filter in a caravan in the 1970's, it was considered by many as a luxury, rather than a necessity. The idea of removing chemicals and improving the taste was worth doing, but the cost of the units and replacing the cartridges every 6 months was not everyone's cup of tea (pardon the pun).

However, things have changed over the years. As Australia has become more populated, it is also becoming more polluted. Remember, we have the same water here now that we had when Captain Cook arrived. But, we now have Giardia and Cryptosporidium, which used to be referred to as the 'Bali Belly' or 'Delhi Belly', or in America it is known as 'Beaver Fever'.

The water authority's job is to supply us with clean, bacteria-free water. They do a fantastic job at the treatment plant, but once it leaves there, it's in 'no-mans land'. There are burst mains where contamination can enter and back-flow is a major problem where water is drawn from factories, etc back into the mains.

Have you ever wondered what the inside of your RV tank looks like? Lift the lid on a toilet cistern! You will probably see dirt laying in the bottom and if you run your hand down the sides, it will more than likely be slimy. The only difference between the cistern and your water tanks is, the toilet generally gets flushed and cleansed several times a day. Your tank doesn't.

Traveling around the country introduces many more problems with your water supply, than it does if you were at home. Today, water is like electricity...

It is supplied to you, but is up to you to make it safe!

Problems and Solutions!

Whether you are used to town water or tank water at home, you are in for some big changes as you travel. You will encounter places where the water can be over-chlorinated and others where it is under-chlorinated, leaving you open to bacterial contamination.

Some locations have access to the town water supplies and water from other sources. (Eg. If you stay at the caravan park in Mareeba, it is supplied by the chlorinated town water. But, if you go a couple of kilometers out of town and stay at the Rodeo Grounds, it is on untreated channel water.)

There are many towns around the country, every year, that have their water supply shut down because of contamination. Or you may take on water from a rain water tank or a creek. Sometimes, it may even be just the simplest thing as a taste change in the water that can upset your stomach.

Don't PLUNGE into the unknown!

What 'Number Rating' is your water?

I had some bore water tested to see if it was suitable to fill a rain water tank on a house during drought times. It came back having passed all tests except one. It had failed the 'colour rating' test. The 'colour rating' number it had was 23.

Upon questioning this, it was explained that if water had a colour rating over 15, it was unacceptable for the purpose of supplementing or substituting household supply. The reason being, if there is 'colour' in the water and chlorine was added to kill the bacteria, a cancer causing byproduct called Trihalomethanes was formed.

Trihalomethanes (or THM's) are formed when chlorine and 'coloured water' are combined.

THM's are a concern to the RV'er. If you have filled your tanks with water that contains a slight colour caused by decaying leaves, branches, etc and then top up with water that has chlorine added, this combination creates a by product called Trihalomethane, or THM's. (A good quality carbon-based filter will remove THM's.)

Chlorine - What's the problem?

Some people like to add chlorine to their tanks to kill off the bugs. Unless you know what you are doing, this can be a hazardous practice. Unlike the chlorine that is in a swimming pool, tap water

does not have a stabiliser added to stop it from releasing as a gas. This is what actually happens within your tanks, and does so within 24 hours. More so in the hotter climates. So, with the belief that "I fill my tanks with chlorinated town water, so I know there are no bugs in it", this is a false sense of security.

With our tanks so close to the ground, the heat from the road will speed up the process and with the chlorine now gone, the bacteria are free to multiply and form another problem called BIOFILM...

What is Biofilm and how does it affect me?

With bacteria being neither male nor female, they have the ability to keep multiplying, which they can do approx. every 20 minutes.

Due to this fact. the allowable level of e.Coli bacteria in drinking water is > (less than) 1. So, in other words, NIL. If 1 bacteria gets into your tanks, 1 becomes 2, 2 to 4, 4 to 8, 8 to 16 and so on. If you fill your tanks with contaminated water, in a matter of just 7 hours, you could have over 2 million bacteria breeding in your tanks.

NOT the B.E.S.T. !

If the bacteria are able to settle in a good spot, such as pipe joint, your pump or a water filter itself, they begin to secrete a membrane that will protect them. This membrane, known as BIOFILM, cannot be penetrated by the low levels of chlorine in the water, so they continue to multiply. Eventually, as you travel down the road, the membrane can become ruptured and all these bacteria are re-released into your water supply.

How do 'Bugs' get in if the water is chlorinated?

As mentioned previously, burst mains and backflow are common ways to introduce bacteria. In your case also, there are the breather holes on the top of your water tank/s.

Hot Water Systems

Your hot water is set to a high temperature to kill off bacteria, including legionella. Too often, I have heard RV'ers say that they "heat the hotwater just enough to have a shower". You should allow the hotwater system to reach the point when it turns off, unless you are sure there is no bacteria in your system.

This is, of course, also a problem when you lay your water hose out on the ground and it becomes heated from the sun. This is the worst thing for the "domestic-style" filters. These filters are not designed for hot water. They breed bacteria quicker and the cheaper ones break down. By using a B.E.S.T., this problem will be eliminated.

So, what is the Solution?

Filtration is the answer. But, with some RV's now having just as many water outlet points as a house; e.g. sink, shower, dishwasher, washing machine, it is becoming a big ask for a compact drinking

water filter system to perform the same job as a whole of house unit. So, we need to look for the features and benefits of filtration products that will produce the best possible water for you.

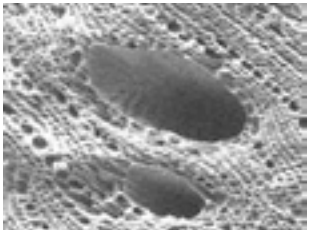
How A Filter Works.

Firstly, there is no such thing as a bad filter, it's just a matter of what you intend to do with it. A problem within the RV filtration industry is, when looking for a water filter, you have to learn to listen to what's not being said - whether due to salesperson inexperience or style. (Eg. - We all say our filters remove herbicides and pesticides, but rarely are you told that it can take up to 20 minutes 'contact time' to get 100% removal!)

We will start by looking at the different parts and types of water filtration and treatment products where better choices can be made.

Carbon (Charcoal)

The most common medium used in a water filter is carbon. The process is very simple, the same as iron fillings are attracted to a magnet, chemicals are attracted to carbon.



Each grain of carbon has lots of small holes inside, where the chemicals 'stick'. If all these surfaces were laid out, it would cover a football field. This why a small filter can remove a lot of chemicals.

With hundreds of different types of carbons available, it is important to have a type of carbon that will suit the RV'er, because remember, you won't always be takingon chlorinated town water, so mass produced domestic filters **will not** suit. They are great for removing the chlorine, but what else? Like a swimming pool with no chlorine - bacteria breeds. Also, traveling Australia,

you will come across many more contaminants than just chlorine, hence a carbon with a broad spectrum rating is required.

Axial Vs Radial Flow

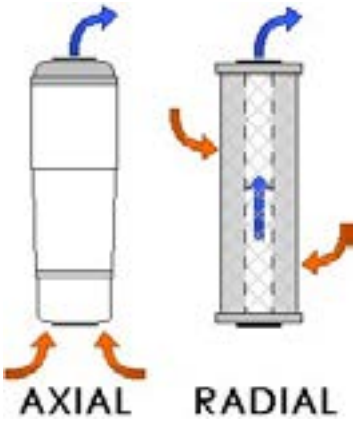
This refers to the direction the water passes through the carbon.

Radial

Radial is where the water passes from the side of the filter, through the carbon and up a hollow tube in the centre.

Axial

Axial is where the water enters from one end, travels the entire length of carbon to the other end and out.



This is a very important feature as the secret to filtration is the longer the water is in contact with the carbon, the more it will remove.

The carbon used in the domestic-style mass-produced filters is usually of high quality, however the adhesion method used to create the cartridge reduces the surface area giving less carbon contact time. These are often radial flow cartridges, which again reduces the carbon contact time. Radial carbon filters are also often very finely compressed to form the micron rating of the filter.

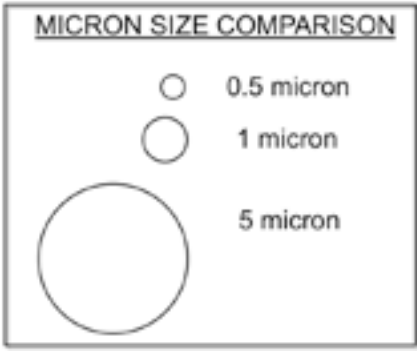
Axial flow is the best choice for maximum contaminant removal.

Micron Rating

The 'micron' refers to the size of the hole within the filter. The smaller the number, the smaller the hole. E.g. A 5 micron is larger than a 1 micron.

The health department will tell you that you need to have at least a

1 micron to stop the likes of e.Coli, legionella bacteria and parasites such as giardia and cryptosporidium.



Compressing the carbon to form the micron rating will cause clogging and result in more frequent replacement. If the carbon isn't compressed, it will provide the perfect haven for bacteria, unless there is a means to sanitise it.

Life. (How long do filters last?)

Most filters are given a life 'guide' by the manufacturer. It is only a guide because there are so many factors to consider. The filters 'life' is generally calculated on chlorine being added to town supplied water at the maximum level and with a neutral pH. However, once bacteria and biofilm are introduced into the filter, this shortens the life significantly. Likewise, so does hard water.

If you use a standard carbon filtration system with no substantial sanitising device, then you must understand that bacteria could be breeding from day one. This is why we are told to change the filter every 6 or 12 months.

If the system is regularly sanitised and there is no bacteria present, then the 'life' of filter will be dependent on where you are using it, what you are using it for and how many people it is supplying in the 'household'. Like the different filters on your car, you change them before they 'run out'.

One way to test the filter to see if it is still functioning correctly is to use chlorine test tablets, the same ones you use for a swimming pool. Test the tap water to ensure it has chlorine in it, then test the filtered water. There

should be a difference. Another way is to freeze ice cubes. Tapwater should be cloudier that filtered water. Remember this is only testing the chlorine removal, not the bacterial build up.

In-Built Sanitising Options

(Inline Sanitising Devices)

Ultra Violet

This method requires power and the water must be crystal clear so the bacteria aren't protected from the UV light by dirt particles.

O-Zone

This system, again, requires power and they are generally larger sized units. Incidentally, this is the only system that can kill Giardia and cryptosporidium. (Bleaching products can kill cysts also, but it requires levels that are harmful if swallowed.)

Silver Imposed / Impregnated / Stabilised

This system gives a false sense of security. Silver (chemical term: Ag) does have the ability to kill bacteria, however the mere presence of silver in the system is not enough. The amount of silver is not visible or testable, so it questionable if it is there at all.

If there is silver present in these filters, it generally has the ability to perform for only around 100 litres. The purpose of silver in this application is typically to assist in reducing bacterial contamination prior to installation.

SilverSafe®

This process ensures all water travels over a bed of silver and is installed **before** and **after** the filter medium. This allows the carbon to be uninhibited in performing it's main task of removing contaminants. As the SilverSafe® is killing the bacteria before it can breed within the filter, there is no need for refrigeration or 'regular time' replacements of the filter.

BACTERIOLOGICAL ANALYSIS OF WATER PURIFIER SAMPLES

Sample Regd. No	Simmonds & Bristow Pty Ltd (inc. in Qld)	Total Coliforms WB301.2 XXgs/100ml	Heterotrophic Plate Count WB300 CFU/ml
69964	Influent lab water seeded with E coli and heterotrophic bacteria	8000	5.1×10^7
69965	Filter effluent collected after approximately 5L run to waste - sample analysed after standing 1 hour	<1	60
69966	Filter effluent collected in conjunction with 69965 - sample analysed after standing overnight (approx. 17 hours)	<1	2

*WB301.21- Approximate counts only Rec'd 300492

This Laboratory is registered by the national Association of Testing Authorities Australia. The test(s) reported herein have been performed in accordance with its terms of registration. This document shall not be reproduced except in full.

Official SilverSafe® Laboratory Test

You will notice that reputable companies will state something along the lines "Don't use on water that has an unknown level of bacteria, with out disinfection before and after the filter". However, sometimes you don't see this information until after you have purchased the unit.

Added Sanitising Options

(Liquid/Powder added to water storage vessels)

Chlorine

Now lets work on the theory that chlorine itself is not harmful. After all, the baby bottle wash formula is chlorine based and is several times higher a level than that allowed in tap water.

It's that by-product of chlorine and 'colour' (or decaying leaf matter), THM's, that rules it out as a RV sanitiser. Along with the danger of carrying the chemical with you.

Silver and Hydrogen Peroxide

This is a good system when used on a large open house tank. It is <u>not suitable</u> for RV use. We looked at this in the mid 90's and decided it was too unsuitable for several reasons.

1. It can burn you if you get it on your skin.

2. The chemical term for Hydrogen peroxide is H_2O_2- water with extra oxygen. When in contact with silver, more oxygen bubbles will be produced. They keep expanding hence the container must have a ventilated lid. If this vent becomes blocked, the container will split or explode.

3. If the solution is over 7% it is classed as 'DANGEROUS GOODS'. (A recent discussion with an insurance company implied that if there was a fire and a dangerous good was found, it may affect your claim.

4. It is a corrosive chemical, and will effect any metal, including silver jewellery.

5. It can be quite difficult to calculate how much water is in your RV tank/s to know how much solution you need to add. Over-dosing water tanks is common.

6. It can effect the pH of the water in your tanks.

7. As you know, fire requires oxygen which you have now added to your water. Then combine this with the warning from Suburban Hotwater. (See Page 13.)

Reputable companies like Davey pumps who produce their own solution, advise that a 1 micron filter should still be used. This is because the solution DOES NOT kill Giardia and Cryptosporidium. This is a great product for shock treating RV water tanks, but not as a continuous preventative measure.

8. Anodes must be checked every 6 (six) months. Please see Anode Protection Section.

SAFETY WARNINGS

WARNING! It is imperative that the water heater tank be filled with water before operating the water heater. Operation of the water heater without water in the tank may result in damage to the tank and/or controls. This type of damage is not covered by the limited warranty.

WARNING! Hydrogen gas may result if you have not used this heater for two weeks or more. HYDROGEN GAS IS EXTREMELY FLAMMABLE. To reduce the risk of injury under these conditions, open the hot water faucet for several minutes at the kitchen sink before you use any electrical appliance connected to the hot water system. If hydrogen is present, you probably will hear an unusual sound such as air escaping through the pipe as the water begins to flow.

Hydrogen gas may be present even after water has been drained from the tank. Open faucet at sink and allow system to vent for several minutes (5-10 minutes).

Do not smoke or have any open flame near the open faucet.

Do not attempt to light pilot or main burner. On DSI models, be sure the switch is "OFF".

Extract from Suburban Hotwater Instructions.

Silver Colloid / Colloidal Silver

(NOTE- We do not endorse Silver for health benefits, rather as a method for bacterial prevention.)

This is by far the safest process of all - if made correctly! There are no side effects, but great results. Just a few drops and you can achieve the results as per our tests. (See Page 14.)

It is non-harmful and because it is so effective against e.Coli, I regularly use it to spray on my hands, face and mouth, after emptying the black water. It is expensive and various brands are available in most health food shops and some chemists.

The need to add H_2O_2 (Hydrogen Peroxide) is optional to speed up the process, but only use 3%, and ensure all tap outlets are open to allow for air expansion / release.

BIOTEST LABORATORIES PTY LTD Our Ref.: 96483

Sample Description: **B.E.S.T. WATER FILTERS COLLOIDAL SILVER B#N3, 0.1mg/L**
Biotest Sample No : 1318/30
Challenge Organism: *Escherichia coli* O157:H7 (Environmental Isolate) 7.5×10^9 cfu/mL

TEST RESULTS

Challenge Organism	Recovery Count MLSA 44.5°C/24hours			
	120 minutes	Kill Factor (%)	24 hours	Kill Factor (%)
E.coli O157:H7	<1	99.99	<1	99.99

VALIDATION

Test Organism	Product Inactivation MLSA 44.5°C/24hours
Escherichia coli O157:H7	Pass @1/100 Dilution

DISCUSSION
A Kill Factor of 99.99% or greater is regarded as evidence of significant bactericidal action. (Kill factor is defined as the ratio of the initial to final count.) The product as tested displayed significant bactericidal action against E.coli O157:H7 after 120 minutes and 24 hours contact times.

TEST CARRIED OUT BY:
M.R.Stokes B.App.Sc., Grad.Dip.Biotech., MASM, MAIFST **Microbiology Manager**

Biotest Laboratory testing on B.E.S.T. Water Filters branded Colloidal Silver

Let's look at some Systems!

Over the past few decades we have seen many businesses attempt to break into the RV market. Most fail as they are generally, simply adding hose fittings to a domestic filter and applying a sticker saying "RV / Caravan filter". Some of the points mentioned previously explain why they fail, but there are a few more points to consider.

Filters that allow bacteria to breed need special care when not in use. Usually, they are recommended to be dried out, wrapped in plastic wrap and placed in the fridge or freezer. The problem here is, because of the micro pores in the carbon, you never know whether it is completely dry, or whether Biofilm has been produced.

If the filter does have bacteria in it, by putting them in the fridge, you may only be putting the bacteria into hibernation. If you have not dried them out completely, placing them in the freezer is only going to make the water expand into ice and this will then crack the pores, undermining the cartridges' micron rating (in carbon block cartridges).

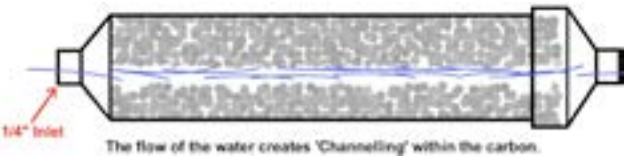
Also, as many a traveler has done, you can forget to pack them before heading off, forcing you to buy another set. This is unfortunate as many filters have enough carbon to treat between 4,000 and 20,000 litres. If you drink 2 litres per day, you only drink 730 litres in a whole year. Often, filters are required to be replaced with only a small portion of the carbon being used up. The 'regular time' replacement (Eg - Every 6 or 12 months) is due to bacterial build-up - not from the carbon 'wearing out'.

Inline Filters

Recently, we have seen a surge in inline systems coming into the RV filtration market. We used to use these style of inlines as a 'polishing' filter, which is installed after a major filter. They are also commonly used on fridges and coffee machines... and thats where they should stay. They are not meant for RV use.

Why? Well, most of these have a small inlet, 6mm-(1/4"). Along with restricting the flow, this causes a problem known as channeling. Channeling is caused when you have a 1/2" supply hose going into a 1/4" fitting, which increases the pressure going into the unit. This causes it to 'shoot' a small jet of water through the filter. As the carbon is loosely packed, it can carve a channel right through the filter.

Once a channel has formed within the filter, only a small amount of the water that passes through the unit actually touches the carbon. So, effectively, little or no filtration is occurring. (The exception being the membrane of the filter that removes the dirt - but this is generally only 5 micron or above.)



The flow of the water creates 'Channelling' within the carbon

As there is dirt in all water, the membrane will start to clog up from the dirt buildup. This style of inline has a one directional flow only, so you cannot backflush the unit. There is no way of removing the the dirt from the filter, hence it will require replacement whether it is 6 days old or 6 months old.

These units have been designed for use on appliances, which means they are not UV treated. If used outside, the plastic will breakdown and increase the likelihood of bursting.

You'll often see or hear that a filter is made to the 'high quality USA' requirements. This is true! They do have high standards, but they have low water pressure.

The water pressure in USA is about half of what we have here in Australia. To get a good quality USA filter you will need to pay good money. If it's cheap, it's probably made in the Asian region. We have seen these burst both inside and outside the rigs. Often the little filters sold in marine shops are only for a low pressure pump, as they are rarely connected to town water.

Reverse Osmosis (RO)

This is one of the most environmentally unfriendly systems there are. This process forces water through membranes in such a way that only a small amount of water with 'nothing' in it is produced and the rest goes to waste. A good quality system will

produce around 5 litres of waste to make 1 litre of drinking water. This also takes around 20 minutes to make a litre of water. The waste water is high in minerals, which can make reusing it difficult. Most times, if the supply water was high in salt and minerals, then it is usually drained onto the ground.

The membranes are prone to bacterial contamination, especially when not in use. RO's usually consist of a pre-filter, a carbon filter, a membrane and some also have a polishing filter. As they generally lower the pH, a re-balancing filter to increase the pH is also added to some systems.

You need to protect the membrane, so cartridges should be replaced every 3-6 months in the hard water areas and the membrane possibly every 12 months. This means running costs can be high. To buy a good unit, you will be looking at around $500.00 plus.

Some people use a Reverse Osmosis system for medical reasons or to detox the body. However, caravan parks are becoming aware of these and are starting to frown on water wastage. You need to buy a PPM meter, to determine when you need to replace the membrane, and a pH meter, to ensure the pH is correct. Along with calibration solution to ensure your testing equipment is functioning correctly.



What's the B.E.S.T. Solution?

Around 10 years ago, Caravan and Motorhome magazine did a 'RV' water filter comparison. They introduced our product by saying "It's the SilverSafe® thats sets B.E.S.T. Water Filters apart from the rest". However, it is a lot more than just that. Lets look at the benefits of our best seller, the B.E.S.T. Inline Water Filter.

The B.E.S.T. RV Inline Water Filter

Prevents Channeling

Firstly, the inlet of the filter is 20mm (3/4") not 1/4". This allows the water to 'spread', instead of 'shoot', through the filter. Whilst the SilverSafe® is used to kill the bacteria, it's positioning within the B.E.S.T. Inline assists in eliminating the problem of 'channeling', which commonly occurs within other inline filters. The SilverSafe® diffuses the flow of water and spreads it across all the carbon.

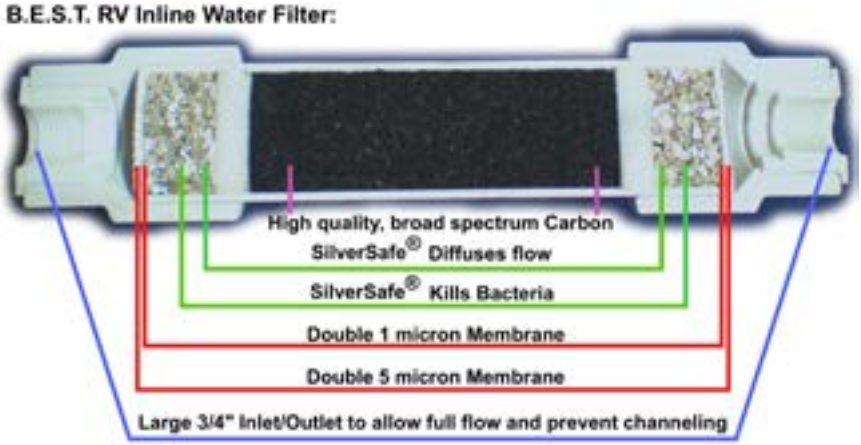
Superior Filtration

As well as incorporating SilverSafe® into the Inline (see page 11), the carbon we use in our B.E.S.T. Inlines is NOT the standard coconut carbon used in the majority of domestic filtration units. It has been purposely selected to give you the best possible result. (See 'Removal Chart' on Page 22/23.)

We have incorporated not one, but two 1 micron membranes at both ends to control the 'bugs'. These are protected by 5 micron membranes to trap the dirt particles. The presence of the 5 micron membranes is to do the 'dirty' work, and leave the 1 micron free to do it's job of stopping the 'bugs'.

As you can see in the image below, there is no set flow direction. This allows the B.E.S.T. Inline to be backflushed, which will eliminate the dirt build-up that causes most other systems to fail.

The strength of the B.E.S.T. Inline's housing is several times stronger than that found in some domestic-style units. This feature is to eliminate bursting from water pressure build-up. (When I was plumbing, the architects required all of our new work to be put under pressure to 2400 KPa for 24 hours. This is, on average, 3 to 4 times greater than the town pressure.) We tested the B.E.S.T. RV Inline to a pressure of 3200 kpa for 72 hours, and this was on a filter that was over 12 months old!



Hard Water Conditioner

You'll see, in the 'Removal Chart' (Page 22/23), the difference in removing the same contaminants in hard water compared to soft water. You will notice that water filters, even with our high quality carbon, are not as good at removing the contaminants in the outback.

Remember, the longer the water is in contact with the carbon, the more it will remove. In the hard water areas, we use our tanks a lot. We slowly fill our tanks, giving the filter more time to grab hold of the particles.

Another product we use is a HARD WATER CONDITIONER. There are several types on the market, but we use a magnetic type.

Why? Because it doesn't matter what speed the water flows through it. Some devices require the water to flow at a high volume to enable the mineral neutralizing action to happen. This is opposite to what a water filter requires, which is 'the slower the better'. Also, magnetic types are set and forget, no maintenance and they can be easily removed and installed at home. Although a good quality one is quite expensive, it is still cheaper than replacing a hotwater system.

Regardless of all these systems, there are still places in Australia where it may be better to buy water, or make sure you carry enough water into the areas that are high in minerals.

In Summary...

I hope this has briefly outlined the importance of a filtration system when travelling Australia. A filter is important not only to remove taste and odour but, with your body being around 75% water, it's better that a filter remove the impurites rather than overloading your kidneys. Without a filter, your kidneys are are having to remove the contaminants!

Now, which one? If you do choose a domestic-style unit, for your own health and wellbeing, you must be prepared to change the filters regularly and/or do the 'dry out and put in the fridge/freezer' process. You will need to also sanitise your tanks quite often, as a domestic filter can release large amounts of bacteria into your tanks. The best and safest way to sanitise, is to use colloidal silver. If you need to speed up the process, simply go to the chemist and buy hydrogen peroxide, at 3% or 6%, which will cost you less than $10. This will save having to carry dangerous chemicals with you as you travel.

Alternatively, you may decide to buy a B.E.S.T. RV Water Filter that you use, and store in your rig. It sanitises as you fill, so no need for any special tank treatments. It will provide you with clean, safe water, wherever the road may take you!

About Colin

I am a 3rd generation plumber. During my apprenticeship in the mid 1970's, water filters were just coming 'in vogue'. However, the filtration knowledge of our suppliers, back then, was limited. "Just change the filter every six months" was the only advice given, but no explanation as to why. I took a trip to see the head of the water treatment plant at the Gold Coast City Council to ask his opinion on 'why a water filter?'. His reply was, "Lad, we have the best water in Australia here, you don't need a water filter. In fact they breed bacteria!". Well, that asked more questions than it answered. If we have the best water, how come there's bacteria in it? From then it became more of an obsession to find out what made a 'good water filter' and which one would work the best.

Having travelled a lot in caravans, the RV industry was on my list. Having installed a 'domestic-style' filter in our own van and seeing it fail, highlighted the fact that there was more to filtration than was being told. We tried the retail shop thing, but being a tradesman, I could only tell it like it was and couldn't compete against the influx of salespeople to the Gold Coast. At the time when we first advertised in the yellow pages, there were only 2 other filter companies on the Coast. Within 2 years there were 53! Mostly home businesses, but nevertheless, everyone was an expert. Today, the 3 original businesses are still around.

I refined the filter to suit the RV market with the intention of travelling Australia and selling a few. I gave a talk at a caravan club, who told another caravan club... then people were going into RV accessories stores and asking for them by name. Now staff, at the RV shops who sell our systems, tell us the B.E.S.T. Inline filter out-sells all other systems they have in store. This make B.E.S.T. one of the largest suppliers of after-market RV filters in Australia (not to mention being Australian Made!). We have sent many personal orders internationally to countries like Spain, New Zealand, UK, Netherlands and USA.

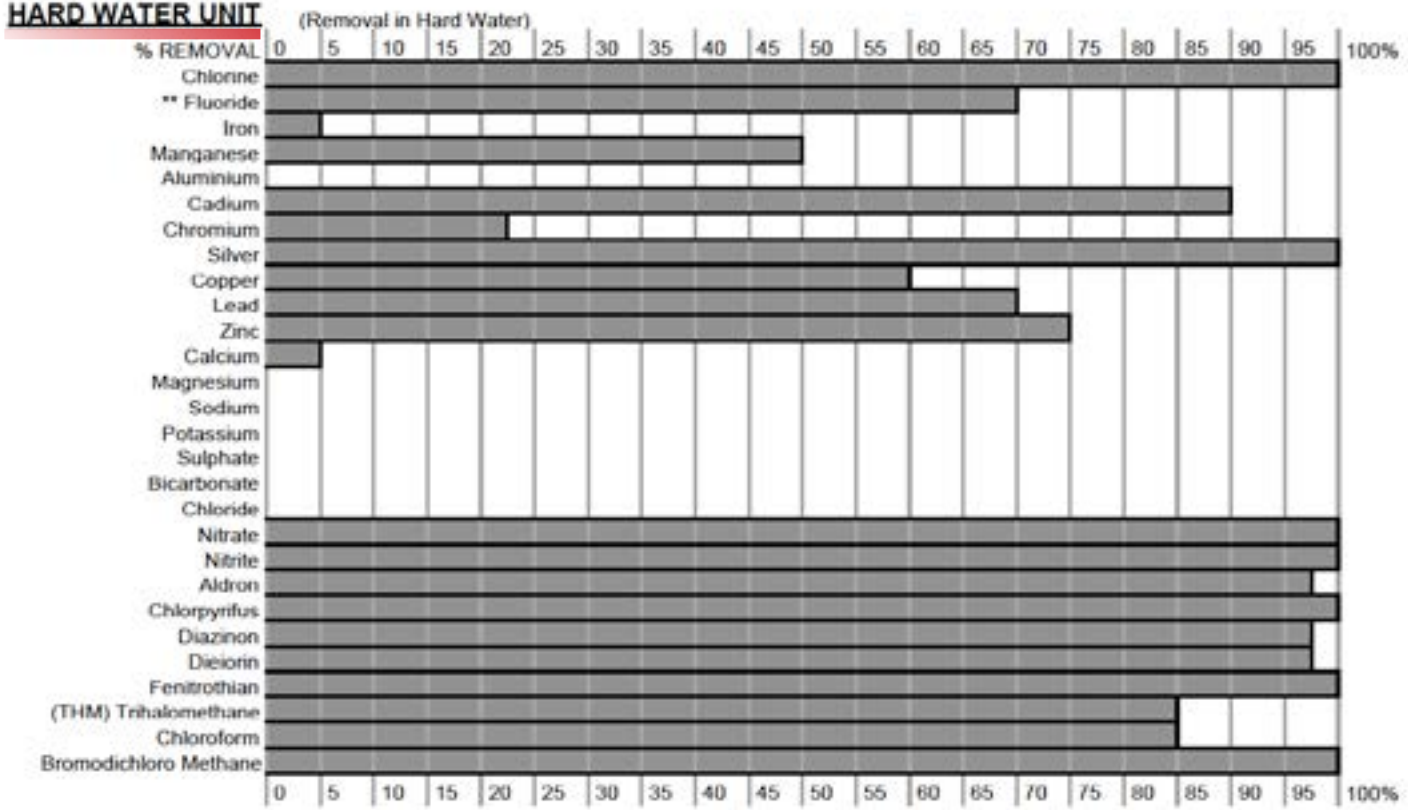
Today, I no longer have a retail outlet. We largely wholesale to stores and only retail via shows and for phone and internet orders. To my knowledge, we are the only water filter business in Australia that does ONLY RV water filtration.

Happy Travels!! Colin

REMOVAL CHART -B.E.S.T. Water Filters - High Quality Carbon

Notice the difference between **SOFT** water and **HARD** water!

HARD WATER UNIT



** Fluoride - This indicates naturally occurring Fluoride only It does not refer to council added Fluoride

PLEASE NOTE: Your water may not contain all of the contaminants listed above

NOTE: The above shows the ability that the carbon has to remove these substances. Should you require the remaining amounts removed it is simply a matter of adding one or more housings with our ion-exchange resin. This will produce water that has more removed from it than a household Reverse Osmosis or Distiller can acheive.

NOTE: When installing a system in hard /bore water areas it is advisable to install a water conditioner prior to the unit. If possible select a conditioner that will treat the whole premises. This will add protection to hotwater units, dishwashers etc.

Quick Reference Guide

What should you look for when purchasing
a filtration system for RV (traveling) purposes?

Use the table below to help make an informed decision!

Feature / Benefit	B.E.S.T. Inline	Other	Other
Micron Rating (1 micron or less) *See Page 8/9*			
Prevents Channeling? *See Page 15/16*			
In-built Sanitisation? (No need for any added treatments) *See Page 11*			
Made for Australian Conditions? *See Page 19*			
No need to refridger-ate when not in use? *See Page 11/15*			
Long Life? No need for regular replacement? *See Page 11*			
Cleanable/ Backflush-able? *See Page 16/19*			

Notes:

We reserve the right to change any information/specifications at any time without prior notification.
Copyright © 2013 Colin Hopgood. All Rights Reserved. v.1