



# Safer water for private supplies and for your home

**The Calmag guide**  
to **Ultra Violet Disinfection**  
with CalUltra, **Water Filters** and  
**Reverse Osmosis** with CalRo



**BUY WITH CONFIDENCE. UNIQUE IN DESIGN UNIQUE IN OPERATION**



# Introducing Calmag

## The water treatment experts

At Calmag, our water treatment experts are specialists in the development and manufacture of the most **diverse range of water treatment solutions**.

Founded in 2002, Calmag is the only **independently owned UK manufacturer** to produce a complete range of products and services to meet the needs of both domestic and commercial customers. Our continuous investment in stringent design, production and testing programmes are your assurance of great quality, **reliable performance and best value**, all backed by long Calmag guarantees, technical support and after sales care.

Calmag domestic products offer the widest choice of home water solutions to deliver the quality of water you want, with the added benefits of reduced energy usage and significant savings on household bills and maintenance costs. Calmag Commercial specialists design products to exacting project specifications, resulting in the most **effective and efficient solutions** to meet heavy industrial demands.

Our work with industry partners and trade associations reflects our total commitment to supporting best practice and the continual development of water treatment excellence. Professional installers have confidence in Calmag, with products that give **optimum performance combined with ease of installation**. Our many customers include some of the world's largest plumbers' merchant chains, UK independent merchants, and public sector organisations.

### Products that are tried, tested and approved

Calmag is one of the largest independent manufacturers of water conditioning products in Europe, offering solutions to practically every water-related need for the home and industry.

The Calmag product range includes scale inhibitors, water softeners, water filters, ultra violet disinfection, reverse osmosis, pH correction, nitrate removal, iron removal, water chillers, calcium treatment, chemical inhibitors and cleaners.

### The challenges of private water supplies

In general terms a private water supply is any water supply which is not provided by a water company. It is not a "mains" supply. **About 1% of the population of England and Wales have private water supplies to their homes.**

Most private supplies are situated in the more remote, rural parts of the country. The source of the supply may be a well, borehole, spring, stream, river, lake or pond. The supply may serve just one property or several properties through a network of pipes.

Many of these private water supplies will not have received prior treatment at a water works which means that the water is unlikely to meet the standards set by the Private Water Supplies Regulators. In such cases, water disinfection by Ultra Violet light is the easiest and most cost effective option open to those responsible for the supply.

## New Private Water Supply Regulations\*

Regulations on private water supplies in England and Wales were introduced in 1991 and were replaced by new Regulations introduced early in 2010. The new Regulations apply to all who own or use a private water supply and have been introduced to ensure that water from private supplies is wholesome, so that people who drink this water may do so without risk to their health.

Local authorities are responsible for regulating private water supplies used for purposes (such as drinking, cooking, and washing) in both domestic and commercial premises.

### Where a private water supply may be found:

- ✓ **domestic properties**
- ✓ **for commercial purposes in premises including, food businesses, Bed and Breakfast, dairy farms, holiday rentals, a workplace (where you employ other people)**
- ✓ **in a public building**
- ✓ **rural areas**
- ✓ **no mains water supply**

A professional from your local authority will visit to inspect the supply and take water samples, generally from your kitchen tap. They can make a charge for this.

If the house you and your family live in is the only property supplied by a water source, and only your family drink the water, the local authority will only take a sample if you ask them to. They can charge for this service. If you are a tenant on a private water supply, you can also ask your local authority to investigate your supply if you think there could be a problem.

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Contact us on **01535 210320** or visit **[www.calmagltd.com](http://www.calmagltd.com)**



# Helping you to get the best water quality possible

## What sorts of improvements might be needed?

Improvements might be required at the source itself, or to the pipes or fittings inside your home, for example:

- ✓ **Repairing the system to prevent dirty water,** animals or their droppings entering the water e.g. by sealing the roof slabs on collection chambers, fencing around the source and digging a drainage ditch to stop surface water or water just below the surface entering the supply.
- ✓ **Installing an appropriate water treatment system** to ensure satisfactory microbiological quality and where required, water filters (to remove iron, nitrates, manganese etc).
- ✓ **Replacing lead pipes** throughout the property is the only completely effective way to reduce the lead levels in your drinking water supply. If the pipe underneath your kitchen sink is dull grey and is easy to scratch leaving shiny marks then it is likely to be lead. Lead pipes can also be found in the pipe leading up to your house. Ensure that lead solder and fittings are not used in any plumbing work.

## What can I do?

Make sure you know where your water comes from and how it reaches your tap. Knowing this can help you understand what could cause a problem.

- ✓ **Clarify who is responsible for maintenance** of the supply. Contact the owners of the land where the source is, and discuss your supply with them, and where the source, tank/s and pipework are.
- ✓ **Clarify who is responsible for the whole supply system** including water treatment equipment and that it is maintained according to manufacturer's instructions.

## Where can I get help?

From your local authority and the following links to web sites: [www.privatewatersupplies.gov.uk](http://www.privatewatersupplies.gov.uk) and [www.dwi.gov.uk](http://www.dwi.gov.uk).

### Handy checklist

In order for CalUltra to work effectively contaminants should be below the specified amounts shown below. You can check this against your water quality report that you should receive from your supplier or local authority. If contaminants are higher than those shown below you may need to install specific equipment to reduce them prior to installing CalUltra

Recommended maximum concentration levels		
Turbidity	<1NTU	✓
Suspended	<10ppm	✓
Colour	None	✓
Iron	<0.3ppm	✓
Manganese	<0.05ppm	✓
pH	6.5 - 9.5	✓
Hardness	<120ppm	✓
Hydrogen Sulphate	<0.05ppm	✓
Tannins	<0.1ppm	✓



## Typical users

- ✓ Legionella Control on cold feed to low temperature, hot water systems, feeding showers, etc.
- ✓ Laboratories
- ✓ Pharmaceuticals
- ✓ Food Processing
- ✓ Irrigation
- ✓ Hydroponics
- ✓ Market Gardening
- ✓ Fish Ponds and Farming
- ✓ Water Bottling
- ✓ Drinks Manufacturing

## Areas used

Private water supplies, springs, wells, rivers and lakes serving:

- ✓ Dairies and Farms
- ✓ Guest Houses
- ✓ Camp and Caravan Sites
- ✓ Hotels and Golf Clubs
- ✓ Youth Hostels, Country Houses
- ✓ Rainwater collection and utilisation systems
- ✓ Charities
- ✓ Local authorities
- ✓ Commercial properties
- ✓ Factories

## Benefits

- ✓ Kills micro organisms.
- ✓ Economical with low power consumption and maintenance.
- ✓ No chlorine.
- ✓ No taste or odour emitted.
- ✓ Robust stainless steel construction.
- ✓ Highly efficient low pressure UV lamps.
- ✓ Easily fitted and maintained.
- ✓ Environmentally friendly.
- ✓ Fast: single pass treatment.
- ✓ Effective: high output.

### WATER BORN ORGANISMS - EXPOSURE UWSEC/CM<sup>2</sup> REQUIRED FOR 99 % DESTRUCTION OF MICRO ORGANISMS

KILL RATE		KILL RATE		KILL RATE	
<b>BACTERIAL</b>		<b>Mycobacterium Tuberculosis</b>	10000	<b>Staphylococcus Faecalis</b>	10000
<b>Bacillus Anthracis</b>	8700	<b>Pseudomonas Aeruginosa (Laboratory strain)</b>	3900	<b>Viridans Stretococci</b>	3800
<b>Corynebacterium Diptheriae</b>	6500	<b>Pseudomonas Aeruginosa (Environmental strain)</b>	10500	<b>Vibro Comma (Cholera)</b>	6500
<b>Dysentery Bacilli</b>	4200	<b>Salmonella (Food poisoning)</b>	10000	<b>VIRUSES</b>	
<b>Escherichia Coli</b>	7000	<b>Salmonella Typhosa (Typhoid fever)</b>	7000	<b>Bacteriophage (E-coli)</b>	6600
<b>Legionella Bozemanii</b>	3500	<b>Shigella Cysentariae (Dysentery)</b>	4200	<b>Hepatitis</b>	8000
<b>Legionella Dumoffi</b>	5500	<b>Shigella Flexneri (Dysentery)</b>	3400	<b>Influenza</b>	6600
<b>Legionella Gormanii</b>	4900	<b>Staphylococcus Epidermidis</b>	5800	<b>Poliomyelitis (Polio virus)</b>	7000
<b>Legionella Micdadei</b>	3100			<b>ALGAE</b>	
<b>Legionella Longbeachae</b>	2900			<b>Chlorella Vulgaris</b>	22000
<b>Legionella Pnemophila (Legionnaires Disease)</b>	12300				

**Please note:** All Calmag units are sized at an output of 30,000  $\mu\text{W}/\text{cm}^2$ . Example - the CalUltra units have a 2.5x kill rate of legionella Pnemophila ensuring that the bacteria is rendered 'dead'



# UV disinfection

## How CalUltra works

UV (ultraviolet) disinfection of water is achieved by simply exposing the water to **UV light of a specific wavelength**. This wavelength is known as the Germicidal Wavelength.

### Principles of operation

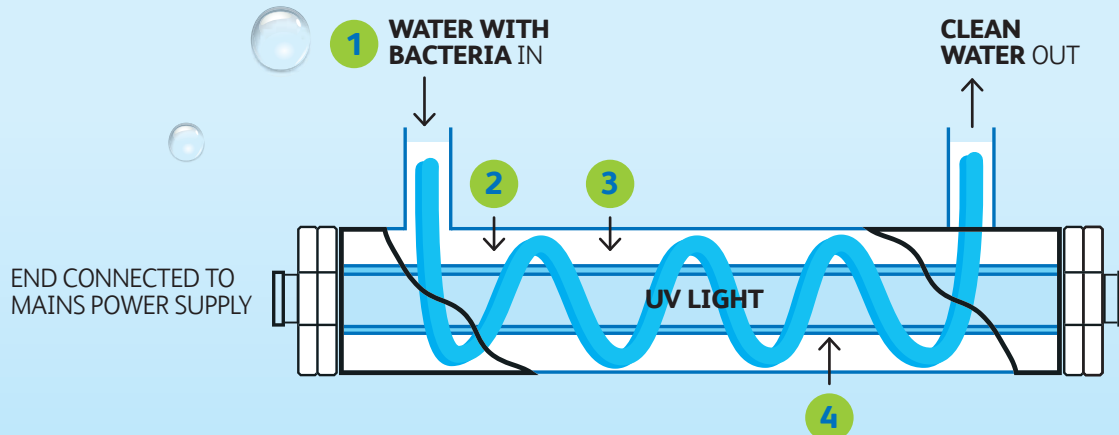
- 1 Water enters the UV chamber and flows into an annular space between the quartz sleeve...
- 2 ...and the outside chamber wall...
- 3 ...the water is exposed to the UV light from the mercury germicidal lamp...
- 4 ...thereby disinfecting the micro-organisms and rendering it dead.

The output of the UV lamp is concentrated at 254 nanometers, **the most effective wavelength** for penetrating the outer skin of Bacteria and Virus cells. Penetrating water in this manner damages the DNA of the cell, preventing it from reproducing. In effect this action **destroys any pathogenic properties** the cell may possess.

The UV lamp is positioned inside a quartz sleeve which prevents the water that passes through the UV chamber from direct contact with the UV lamp, whilst at the same time allowing the UV light to pass through into the water without interference.

The effectiveness of the UV system is determined by the intensity of the UV light and the amount of time the water is exposed to that light. All Calmag UV systems are sized to ensure a lamp output and flow rate that provides an output of 30,000uWsec/cm<sup>2</sup>. Most common bacteria and viruses require an average exposure of between 4,000 and 12,000uWsec/cm<sup>2</sup> to ensure their destruction. Operating at 30,000uWsec/cm<sup>2</sup> ensures **the Calmag UV system will provide a minimum of two and a half times overkill**. This kill rate will increase as the rate of water flow is decreased.

All units should be accompanied by a pre-filter to protect the quartz sleeve and bulb from contamination.



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# CalUltra 12 - 79

## UV treatment for private water supplies

If you are unsure of the microbiological quality of your source water or if you are looking for **additional security** from your water source, then Calmag has the solution in the **CalUltra series of residential UV systems**.

UV (ultraviolet) technology is **proven to control microbiological (bacteria & virus) issues** in water including E.coli, Cryptosporidium and Giardia Iamblia.

CalUltra systems introduce a technology never before seen in a UV system. Truly **modular in design**, the CalUltra allows easy upgradeability in the future. Want to wait to install a UV monitor? - no problem with the CalUltra systems. It offers flexibility plus a colour user interface with a multitude of screens displaying diagnostics, status, warnings and even QR codes for a link back to Calmag's website.

### Product Features

- ✓ **Colour user interface with full diagnostics and warnings including QR codes**
- ✓ **"Future-proof" expandability port for future upgrades and options**
- ✓ **Single ended, 304 stainless steel, polished reactors. Systems include an integral sensor port to allow for sensor upgradeability in the future**
- ✓ **Designed & manufactured to ASME pressure vessel standards**
- ✓ **Flow rates stated at 95% UVT at a dose of 30mJ/cm<sup>2</sup>**
- ✓ **User friendly bayonet style lamp connector (quick ¼ turn removal with no extra tools needed)**
- ✓ **Reliable, industry proven low pressure (LP) coated UV lamps with ceramic bases for durability and a 9000 hour life (1 year)**
- ✓ **Constant current electronic controller (one controller for all systems) in a splash-proof case.**

### Controller with unique design and operation

No other unit **gives so much control**. Our controller features a power factor corrected, constant current lamp driver with a universal power input. A full colour LCD screen provides the user with a detailed description of the system's performance in addition to providing any applicable fault messages and system diagnostics.

All controllers include an **"infinite expandability port"** located on the right side. Simply plug in an optional UV sensor module into the expandability port of the controller and the system will now monitor the UV intensity of the system.





# CalUltra's unique controller design and operation

CalUltra comes with a unique controller which features a **full colour LCD screen** providing the user with a detailed description of the system's performance in addition to providing any applicable **fault messages and system diagnostics**.

## 1 Power-up Sequence

Upon start up, the controller will run through a diagnostic start-up and the sequence will be displayed as follows on the colour LCD:



Once the controller has finished checking for the installation of all available modules a single screen is displayed showing which specific modules are installed and activated on this particular system.

**Please Note:** If the corresponding module icon is not displayed on this screen, then that module is not installed on this system. If you believe this module is installed correctly, recheck the applicable connections to ensure a solid connection point and then restart the controller. The controller then continues to optimise the lamp efficiency by waiting 60 seconds to allow the lamp to reach its optimum output.

## 2 Operational Screens

On the Calmag domestic systems, the default screen shows the **Home Screen**. At any point during the operation the user is able to scroll through the **Home Screen and Lamp Life remaining screen** by simply pressing the button located on the front of the controller.

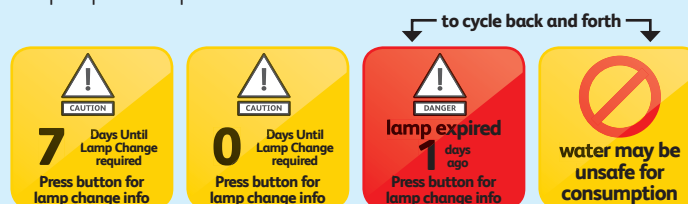


## 3 Lamp Countdown Sequence

The UV unit counts down the number of days until a lamp change is required. The operation is as follows:



Once the lamp has seven days remaining until a lamp change is required, the screen changes to a yellow caution screen. At this point, an audible chirp is given off by the ballast to draw your attention to the pending lamp change condition. When the controller passes the zero day threshold, the screen changes to solid red and cycles between a red "lamp expired" screen and a "water may be unsafe for consumption" screen. The same intermittent audible chirp is heard throughout this lamp expired sequence.



At any point during this sequence, the audible chirp can be deferred by holding the controller button down for a period of five seconds. The screen shown below will appear for five seconds, indicating that the audible deferral has been activated and then the system switches back to the current lamp change or lamp expired screen. This audible deferral will last for seven days, after which then the alarm will sound once again. This audible deferral feature can be activated as many times as you wish.



**Please note:** During the condition of lamp expiration and audible deferral, the water may be unsafe for consumption and should not be consumed without another form of disinfection.

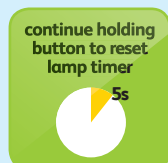


FEATURING:  
A FULL COLOUR  
LCD SCREEN  
DISPLAY

Button

#### 4 Lamp Countdown Reset Sequence

After changing the lamp on the CalUltra system, the controller must be reset in order for the system to begin its countdown function on the newly installed lamp. To perform this reset, you must firmly depress the button on the front of the controller and then manually plug the power cord back into the wall outlet initiating power to the unit. Keep holding down the button for five seconds until you hear an audible chirp indicating the controller has reset the internal timer. Release the switch and the lamp countdown feature has now been reset. The following two screens will be displayed during this process:



#### 5 Additional Features - Optional and Modular

The CalUltra controllers incorporate an **“Infinite Expandability Port” (IEP)** on the controller, it is through this port and via a custom communication protocol that the UV sensor and all expansion modules are connected. Each module (including the sensor) comes with both a male and female connection. To activate the device, you simply need to connect the first device (does not matter which device it is) to the controller and all subsequent devices are then connected into the female end of the other device. This “daisy chain” method allows for a **truly modular approach** and is extremely user friendly. The following optional expansion modules are available for use on your CalUltra controllers:

- ✓ Remote Alarm Module
- ✓ Solenoid Connection Module
- ✓ 4-20 mA Module
- ✓ Ethernet Module

See overleaf for more details.

# CalUltra Extras

## Optional features to add to your CalUltra

The following **extras can be added** to your CalUltra system to provide the complete solution.

### 1 Remote Alarm Module

Allows for a signal to be connected to a remote monitor such as a buzzer, light, alarm system, PLC, etc., via a pair of contacts. In normal operation the OK and COM contacts will be connected, and in a fault condition (Low UV, Lamp fail, Power Fail), the Fault and COM contacts will be connected. Maximum Contact Rating is 1A-120VAC/VDC (uses 16-22 AWG).



### 2 Solenoid Connection Module

Allows the integration of a NORMALLY CLOSED line voltage solenoid valve. Simply affix the module's supplied bare lead cord to the solenoid valve, connect the power cable to the electrical outlet, and the male IEP connector to the female IEP port on the controller.

**Please note:** When this device is connected to a CalUltra system (without the UV module), then the solenoid will close on a lamp failure mode only. When used on different CalUltra systems, the solenoid will close when the UV level drops below 50%. Also note that in cases where emergency use of untreated water is required, the controller can be placed into a manual override mode allowing for the flow of water in an alarm condition.



### 3 4-20 mA Module

Allows for a 4-20mA signal transfer of the UV output to a remote device such as a data logger or computer. Simply plug the supplied cable into any female IEP connections. Two screw terminals are supplied to connect the wire that leads to the receiving end of the signal. As the distance required is unknown, no wire is supplied with this system, however 16-22 AWG is required.



### 4 Ethernet Module

Allows for all controller functions to be connected to a computer via an Ethernet cable. This module is currently in development and is not available at this point-in-time.

## Warranty Registration

It is imperative that you complete the warranty registration process. This not only registers your UV disinfection system for the provided Calmag warranty, but also allows us to provide you with any important product updates or technical bulletins concerning your product. The registration process is a simple process and can be done online at [www.calmagltd.com](http://www.calmagltd.com). Please ensure that ALL information is completed, including a valid e-mail address.

**Please note:** This information is for the sole purpose of technical support for your disinfection system and will not be used, or sold, to any other organisation for any other purpose.



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# Choosing CalUltra

## Getting it right

CalUltra is rated for a specific flow rate under specific water quality parameters.

**Choose the correct CalUltra** suitable for your needs by using the handy guide below. Larger systems are also available if required upto 2360l/m

	CALULTRA 12	CALULTRA 22	CALULTRA 41	CALULTRA 79
Flow Rate (@16mJ/cm²)	6GPM 23lpm 1.4m³/hr	11.0GPM 42lpm 2.5m³/hr	20GPM 77lpm 4.6m³/hr	39.2GPM 150lpm 8.9m³/hr
Flow Rate (@30mJ/cm²)	3GPM 12lpm 0.7m³/hr	5.8GPM 22lpm 1.3m³/hr	11GPM 41lpm 2.5m³/hr	21GPM 19lpm 3.6m³/hr
Flow Rate (@40mJ/cm²)	2.4GPM 9.1lpm 0.7m³/hr	4.4GPM 17lpm 1.0m³/hr	8.2GPM 31lpm 1.9m³/hr	16GPM 59lpm 3.6m³/hr
Port Size	½"MNPT	¾"MNPT	¾"MNPT	1"MNPT
Electrical	230-240V./50-60Hz			
Plug Type	British Standard, BS1363			
Lamp Watts	15	22	39	42
Power (watts)	20	30	49	51
Replacement Lamp	BULB-B12	BULB-B22	BULB-B41	BULB-B79
Replacement Sleeve	SLEEVE-QS12	SLEEVE-QS22	SLEEVE-QS41	SLEEVE-QS79
Unit Dimensions	2.5x13.5" (6.4x34.2cm)	2.5x20.5" (6.4x52.2cm)	2.5x34.3" (6.4x87.2cm)	2.5x36.1" (6.4x91.7cm)
Chamber Material	Polished 304 Stainless Steel, A249 Pressure Rated Tubing			
Controller Dimension	6.8x3.6x3" (171.5x92.1x76.2mm)			
Max Operating Temp	2-40°C (36-104°F)			
UV Monitor Port (upgradeability)	No	No		
Solenoid Output	Yes, but requires optional solenoid module			
4-20 mA Output	Yes, but requires optional 4-20 mA module			
Lamp Change Reminder (audible & visual)	Yes			
Board mounted	Yes	Yes	No	No
Pre-filter Included	Yes	Yes	No (Recommended)	No (Recommended)
Cartridge Included	Yes <b>5 micron House S</b>	Yes <b>5 micron Max S</b>	No	No

## How to check your maximum flow rate

It is important to know the maximum flow rate that your water system delivers. If you do not have this information you can simply time how long it takes to fill a 1 gallon bucket with water. This will be the maximum flow rate for the home. The appropriate Calmag UV unit should then be chosen. It is always better to oversize your system then to undersize as there will be occasions where your home is using water at the pump's maximum capacity. **For example, if your pump delivers 60 litres per minute it is recommended to install the CALULTRA 79 UV unit.**

**Please Note:** that the flow rate for each system can be higher or lower than what the system is rated for. This will change the dose level that the system will deliver. A lower flow is not a concern as the dose will increase, however a higher flow rate will decrease the dose and therefore compromise the microorganism inactivation.

# Water filtration

## Install a filter and taste the difference

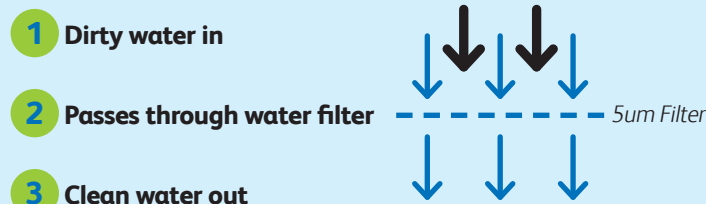
While our water does not come straight from a toilet or sewer, what does come through our taps to drink **still contains many contaminants**. Water filtration filters these contaminants giving you healthier and better tasting water.

If you live in a hard water area or your water supply is sourced from a spring, well or river, contamination is an important issue. Water filters are designed to remove the majority of these contaminants for you to **enjoy healthier drinking water** and you will definitely taste the difference.

### How Water Filtration works

Water filters are simple efficient sieves. They are designed to remove unwanted particles from water and do not add anything to it.

It's as simple as:



UM is the micron rating or sieve size. By comparison, the width of a human hair is 70 micron. 5 micron is the industry standard.

### 2 types of Filters to choose from

1. Filters that fit directly to existing pipes. See installation diagram 1.

**These filters are: Slim R and Slim C**

2. Filters that are connected via water filter housing unit such as the one above. See installation diagram 2.

**These filters are: House S, House SC, Fresh C, Fresh CR, Max C and Max S**



**Fresh CR or Slim R** cartridges should be used to reduce limescale from building up in kettles.

### Replacement filters

Contaminants are trapped within the filter cartridge, therefore you need to change them on a regular basis to maintain a clean water supply. The lifespan of a cartridge is dependant on the quality of water passing through it and we recommend changing filter cartridges every 4-6 months. Before installing a new cartridge make sure you clean the housing internally if badly contaminated, then simply flush water to drain after fitting the new cartridges for one to two minutes.



#### CONTAMINANT REMOVED

Sediment

Dirt

Discolouration

Bad taste

Chlorine

Odour

Organic Materials

Bacteria

Cysts

Scale (hard water areas only)

Scum (hard water areas only)









Heavy metals



## Benefits of water filtration

- ✔ Complete kit ready for installation
- ✔ Cartridges to remove most contaminants
- ✔ Easily installed
- ✔ Kettles will be free of scale
- ✔ Tea and coffee will be free of scum
- ✔ No more smells or bad taste, just clean fresh water
- ✔ Less expensive than bottled water
- ✔ More convenient
- ✔ Do not pay twice for clean water

DIFFERENT CARTRIDGES REDUCE DIFFERENT CONTAMINANTS. CHOOSE THE CORRECT WATER FILTER CARTRIDGE.

								
	HOUSE S	HOUSE SC	FRESH C	FRESH CR	SLIM R	SLIM C	MAX C	MAX S
	✔	✔	✔				✔	✔
	✔	✔	✔				✔	✔
	✔	✔	✔				✔	✔
		✔	✔	✔	✔	✔	✔	
		✔	✔	✔	✔	✔	✔	
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			✔	✔			✔	
			✔	✔			✔	
			✔	✔			✔	
		✔	✔	✔	✔	✔	✔	

# CalRo

## The ultimate in water filtration

CalRo uses the process of reverse osmosis to filter water **removing 98-99% of total dissolved solids** from your water. This makes CalRo the number one choice for people with health concerns or at risk from harmful contaminants

Most people will have been taught about osmosis at school. The movement of water from soils into plant roots is one example of osmosis at work in nature. Reverse Osmosis is based on this **naturally occurring phenomenon**.

Reverse Osmosis is brought about by the application of hydraulic pressure, greater than the osmotic pressure in water containing dissolved solids, causing the molecules of water to flow through the membrane away from the dissolved substances.

Whereas filtration is the process of removing contaminants from water, Reverse Osmosis is the process of removing water from contaminants. The process of **Reverse Osmosis removes 98-99% of total dissolved solids** from your water making it the most effective form of water filtration available.

### Benefits:

- ✓ **Removes 91-99% of all dissolved solids from water.**
- ✓ **Provides water of extreme purity for many specialist applications.**
- ✓ **Can be the simplest way to remove certain contaminants from water.**
- ✓ **Benefits for people with health concerns.**



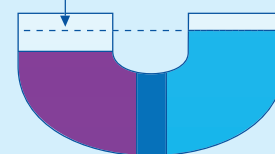
### How CalRo works

#### Osmosis



#### Reverse Osmosis

APPLIED PRESSURE



CONCENTRATED SOLUTION DILUTED SOLUTION MEMBRANE

#### Each element is designed to remove a particular type of impurity:

- 1 The prefilter which removes suspended matter from the feed water by passing it through a sediment cartridge filter.
- 2 The pre carbon filter which contains activated carbon to remove chlorine and prolongs the life of the element.
- 3 The R.O. module which contains the reverse osmosis semipermeable membrane and is the heart of the system. Here, the remaining suspended solids and most of the dissolved impurities are separated from the water molecules and flushed down the drain.
- 4 The post filter, which contains activated carbon, removes any residual taste and odour from the product water.

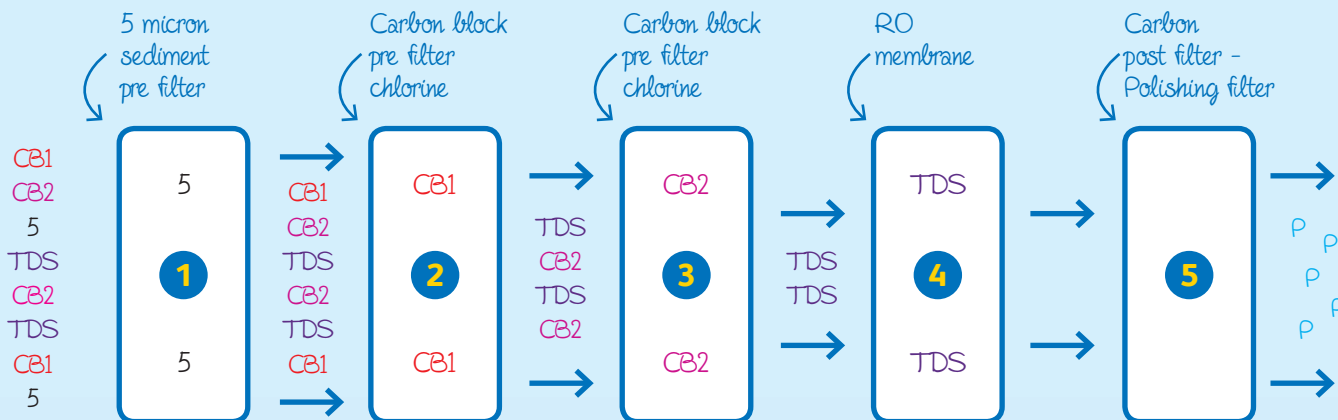


## Includes a 10 litre storage tank

The storage tank is designed to store up to 2.5 gallons (10 litres) of product water. It is pressurised to force the water up to the tap when it is opened. The drinking water tap is a compact, chrome plated\* with a two position lever that allows water to be drawn from the storage tank in continuous or intermittent flow.

\*Coloured taps are available on special orders.

## The five stages of reverse osmosis:



**Key:** 5 - Dirt 5 micron. CB1 - Chlorine. CB2 - Chlorine. TDS - Total Dissolved Solids. P - Pure Water.

### CONTAMINANTS REDUCED BY REVERSE OSMOSIS

Algae	98%	Chlorides	97%	Magnesium	98%	Silver	98%
Aluminium	98%	Chlorine	99%	Mercury	96%	Sodium	98%
Antimony	96%	Chromium	99%	Monochloramine	94%	Sulphate	98%
Arsenic	98%	Copper	99%	Nickel	98%	THM's	99%
Asbestos Fibres	99%	Cysts	99%	Nitrates	98%	Total Hardness	98%
Bacteria	98%	Dichloramine	92%	Odours	99%	Total dissolved solids	94%
Barium	99%	Fluorides	98%	Pesticides	99%	Total alkalinity	91%
Benzene	90%	Herbicides	99%	Phosphate	98%	Turbidity	98%
Beryllium	99%	Iron (soluble)	98%	Potassium	86%	Viruses	98%
Cadmium	99%	Lead	99%	Radon	95%	Zinc	99%
Calcium	97%	Manganese	98%	Selenium	90%		





# Guaranteed confidence in water quality

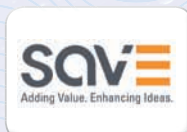
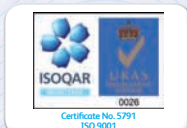
Calmag's **fresh, innovative approach** to water quality has led to the development of the most extensive and effective range of water treatment solutions within the UK water treatment industry – our products are designed with the **needs of our customers** in mind – the merchant, installer and consumer. Calmag's philosophy is based on providing products and services to meet the real needs of all our customers – we don't simply produce what we think you should buy - Calmag have the **unique design** and production capabilities to produce what you want - when you want it!

## Beware of imitations!

There have been a number of instances when customers have been under the impression that they have bought a Calmag product but, in reality, have been supplied with an alternative and inferior product that fails to match the industry-leading performance and aesthetic appeal of ours. So we strongly advise customers to **ask for our product by name**. Other products may seem to offer similar qualities, but if it isn't Calmag, it simply won't perform to our standards.

There are **two key ways to check** that you've purchased a genuine Calmag product: they carry the **WRAS approval** on scale inhibitors, and **BuildCert** and **ESTr** approvals on a range of chemical inhibitors.

**Calmag is a member of and in partnership with:**



**QUALITY  
ASSURED  
AND TESTED**



For more information regarding all Calmag products and services please go to **[www.calmagltd.com](http://www.calmagltd.com)**

**Tel:** 01535 210320 **Fax:** 01535 210321 **Email:** [sales@calmagltd.com](mailto:sales@calmagltd.com)

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\* All figures are taken from various published figures