

**SPECIAL**

# SCALE TRAPP

## CARTRIDGE FOR WATER HEATERS

### 2 Stage Water Optimization with Watch Water® Filtersorb SP3 (S) and Filtersorb SPA (MGO) Filter Cartridges

Two different types of highly advanced **Filtersorb SPA** and **Magnesium-oxide (MGO)** beads for enhanced reduction of dissolved metals. Highly advanced **SPA (MGO)** which bonds dissolved metals internally and irreversibly in a matrix pore structure. The upward water flow increases the surface area and will stay as non-dissolved and will not cause any type of scale, corrosion and keeping all surfaces neat and clean.

Combinations of two different types of special media's. The "**Filtersorb SPA (MGO)**" contained in an upper portion of outlet chamber is comprised of a special highly advanced surface for autoionization of Anion's such as Silicates, Sulfates and Phosphates.

### Two Stage Water Filtration

#### 1. Filtersorb SP3 (S)

#### 2. SPA (MGO) Beads adding Magnesium

**Watch Water®** Head for Quick Exchange System (QES) consists of five components as shown in *Figure (1)*. Where Part-5 is available in various sizes (1/2", 3/4", 1") and Part-2 represent as the original seal from **Watch Water®** when you buy a **Filter Cartridges**.

Figure. 2

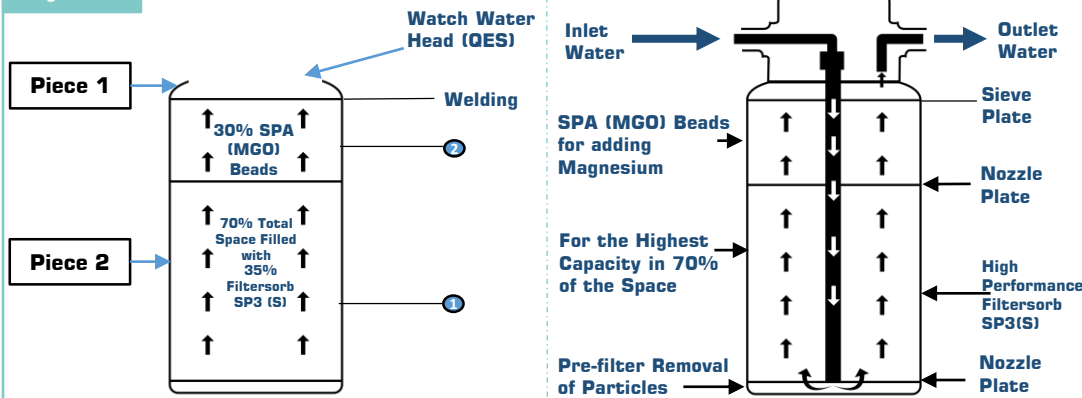


Figure. 1



# APPLICATIONS AND INTRODUCTION

Washing Machine



Coffee Machines



Vending Machine



Water Heaters



## Big Advantages

- Quick Exchange Systems
- Highly efficient scale prevention
- 2 – Stage treatment with  
**(A) Filtersorb SP3-(S)**  
**(B) Filtersorb SPA (MGO)**
- Best water for water dispensers, dish washers, combi-steamers and ovens, water for coffee machines and vending machines including all water heaters.

**Watch Water® ScaleTrapp** is a very special, practical and Quick Exchange Filtration System (**QES**) developed for the diverse requirements of food and water sector. **ScaleTrapp** provides superb quality water for **drinking water, coffee water** and water for all kinds of vending machines and produces scale free and perfect water for **oven's, combi-steamers, dish washers, washing machines** and all kind of **home appliances**. The new **Two (Dual) Chamber** technology provides even more effective water optimization results in a consistently high water quality for all kind of **Hot and Cold drinks, Home Kitchen's, Restaurants, Laundries, Bakeries** and all food and beverage applications.

## Total Hardness

### Carbonate Hardness + Non Carbonate Hardness

Hardness in general describes the amount of dissolved cation's and anions in water. Carbonate Hardness is made from CO<sub>2</sub> dissolved in water making carbonic acid



In practice, this is the amount of



Only Calcium makes lots of trouble and bonds with surfaces. Together with carbonate





# APPLICATIONS AND INTRODUCTION

## Total Hardness (cont.)

hardness level, e.g. it causes formation of Lime scale. Magnesium is not easily bonding, so it causes no Lime scale formation. As **Magnesium (MGO)** has lots of oxygen it creates a **great flavor** and **taste to water**.

For the first time in water treatment **Watch Water<sup>®</sup>** has found a way to make mineral which can remove CO<sub>2</sub> from water. Changing the pairing of **Magnesium** and **Calcium** along with **Bicarbonates** and **Carbonic acid**. This means ability to keep pH very stable, which does not necessarily mean neutral. As both of the formations are changed to carbonates **H<sub>2</sub>CO<sub>3</sub> - HCO<sub>3</sub><sup>-</sup> - CO<sub>3</sub>** the boiling water cannot shift these crystals from water to the surfaces of the boiling equipment e.g. Hot Water boilers, Coffee machine boiler, Kettle and so on. As a result there will be no scaling.

**Magnesium** however is the king of all waters. If we forget about it, it will turn our life into a misery. Carbonates are in charge of acid buffer capacity and this is the reason to keep the pH stable. In case of low carbonate hardness all the **Heaters, Boilers** will get corrosion. Only Carbonate hardness (not bicarbonate) is referred to as Alkalinity. Which is the capacity of an aqueous solution to neutralize acids. Learn once again and keep in mind that Alkaline or Base both have to do nothing with Alkalinity and both alkaline and base are useless. Only **Watch Water<sup>®</sup>** have found a rapid way to producing **Healthy MGO** a healthy mineral which stores carbon dioxide (CO<sub>2</sub>) and avoid any scale or corrosion on boiling heater and cooling machines.

In the **chamber one** of **ScaleTrapp** system, the **temporary hardness** treatment takes place. Scale is a major cause of this hardness.

**Why?** The CO<sub>2</sub> gas which is trapped temporarily in the water changes the complete water chemistry → **H<sub>2</sub>O + CO<sub>2</sub> = H<sub>2</sub>CO<sub>3</sub>**



Dish washer



Steam Oven's



Drinking Water



Home Appliance's



## SCALETRAPP TECHNOLOGY

**H<sub>2</sub>CO<sub>3</sub>** is carbonic acid with less pH it dissolves calcium in water and become **temporarily hard**



and this is the reason this chemical change causes the permanent hardness to move to one side of the channel depending on their Electrical charge.

**Temporary Hardwater → Permanent**

By taking advantage of this migration, **Watch Water® ScaleTrapp** can split the **hardwater** flow (stream) into as follows.

**Splits Ca(HCO<sub>3</sub>)<sub>2</sub>** into harmless **Calcium carbonate crystals** in the first chamber.



As we know that carbon dioxide altar's the water chemistry by making it slightly more acidic: the tart taste of carbonic acid causes unpleasant flavor of coffee and beverages. The acidity means that CO<sub>2</sub> dissolves in water it creates charged particles called **ion's**.

This positively charged ion is **hydrogen ion's** and it moves much more quickly through the water solution and causes corrosion. **MGO beads** trap these hydrogen ion's and release **Magnesium** and **Oxygen Ion's**. These ion's movement through the water creates a subtle electric field; field draws particles in the water, which have either negative or positive charges of their own toward one side of the water flow.

**ScaleTrapp system** takes advantage of this electric sorting by drawing the **temporary hardness** in the **first chamber** and splitting the water into **second chamber**. One chamber with **Filtersorb SP3(S)** for **temporary hardness** and the second chamber with **Filtersorb SPA (MGO)**

to treat **permanent hardness** with **anionization** process to make **clean and healthy water** because the system does not have any **Ion-Exchange**, membrane or mechanical filter, clogging/doing is not a problem. No chemicals are needed in this process. The system is without energy. To maintain enough electrical field the **first chamber** is filled 50% to keep the positive and negative ion's moving through the **second chamber**.

### "Alarm"

Salt.... sodium Chloride would not be used or useful for **water purification** because the sodium would remain in the water after softening. So, the **Watch Water®** thought to substitute carbon dioxide as it is anyhow present in hardwater. Not harmful for humans to inject and as easy to remove from water as opening a can of soda.

**ScaleTrapp system** is very useful in the whole world home appliances it does not require any chemicals and creates no concentrates. Only requiring a **Filtersorb SP3(S)** source of carbon dioxide to use. **ScaleTrapp** is definitely able to provide many hundred liters per hour, which meets a practical standard of each household, restaurants and all commercial and public buildings. **Watch Water®** is now working on scale-prevention system for possible use in large water treatment plants to supply large communities.

**Having Hard Water Problem's?**  
**Scale Problems?**  
**Corrosion Problems?**  
**Healthy drinking water problems?**

**We hope ScaleTrapp is the right device to help and solve these problem's**

**Disclaimer:** The information and recommendation in this publication are true and based on data we believe to be reliable. They are offered in good faith but do not imply any warranty, liability or performance guarantee. Specifications are subject to change without notice. Watch Water® will not be liable under any circumstance for consequential or incidental damages, including but not limited to, lost profits resulting from the use of our products.