Manufactured in Germany

Ozmosis

FILTERSORB
FILTRATION
ADSORPTION
INSTANT PRODUCTS
OXY TREATMENT
SYSTEMS

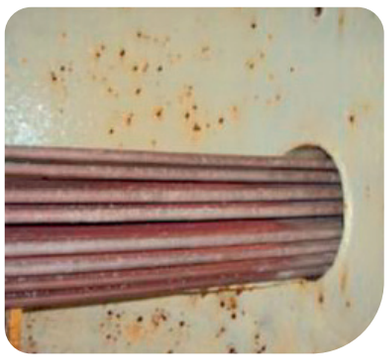
FILTERSORB® SP3

REVOLUTIONARY SCALE PREVENTION MEDIA

ADVANTAGES

- No salt required
- No backwashing required
- No regeneration cycle required
- No increase in sodium contentin water
- Removes the previous scales of plumbing
- Catalytic process converts Ca and Mg into harmless micro crystals Maintenance free.
- No extra cost incurred.
  No chemicals required for disinfection No
- electrical connections
- required
  No drain connections required
- No control valves required
- Very easy to install
- Great savings against convetional
- salt based water softeners
  Provide the best quality healthy
- water without the addition of
  Sodium or Phosphates

GREEN TECHNOLOGY!



FEATURES

- 5 - 7 years media life
- Best Quality Drinking Water
- Nucleation Assisted Crystallization (NAC)

NAC TECHNOLOGY

NSF/ ANSI / CAN 61 & 372

MEMBER Water Quality ASSOCIATION

PREMIUM QUALITY
MADE IN GERMANY

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WHAT IS FILTERSORB® SP3 ?

FILTERSORB®SP3 is the result of extensive research work along with its undisputable success in the market, worldwide since 2005.

Watch®'s core motivation for developing this product was to find an alternative to conventional ion exchange based water softeners, reverse osmosis or other chemical based systems that prevent scale.

Recent restrictions placed upon the above mentioned technology lead to an environment friendly, cost effective FILTERSORB®SP3 completely takes care of the primary cause of scale forming cations viz. Ca^{2+} and Mg^{2+}.

WORKING PRINCIPLE

When the hard water under goes nucleation in the pressure vessel, the calcium bicarbonate $Ca(HCO_3)_2$ is transformed into aragonite form of calcium carbonate $CaCO_3$ crystals. These crystals are formed through decomposition and crystallization process, forming very stable harmless crystals.

The following equation describes the reaction that occurs inside the pressure vessel when flow over grains of nucleatio

$$Ca(HCO_3)_2 \rightarrow \underset{\text{(Micro-Crystals)}}{CaCO_3} + \underset{\text{(Colloid)}}{CO_2} + \underset{\text{(Pure)}}{H_2O}$$

The name fragment "SP (Scale Prevention) 3" is to indicate this unique transformation of water hardness $Ca(HCO_3)_2$ into 3 components viz.

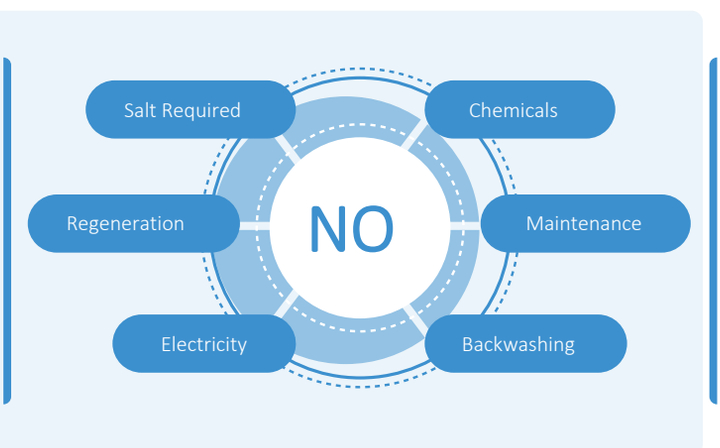
1. $CaCO_3$(micro-crystals)
2. CO_2(colloid) and
3. H_2O(pure)

In the pressure vessel, the equilibrium of carbonate species in water is changed, assisted by the driving force of stable crystal formation and therefore the reaction is pushed to the right ⟶. With this technology, as long as CO_2 is being removed the soluble $Ca(HCO_3)_2$ converts into insoluble calcium carbonate ($CaCO_3$) crystals

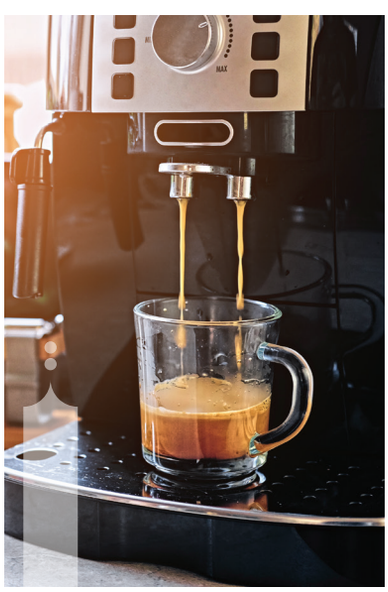
The calcium carbonate crystals grow steadily. They are **very stable** and **cannot dissolve** (incapable of forming scale) in the water.

Glass grains crystallization sites provide **increased nucleation sites** for the formation of submicron sized $CaCO_3$ crystals. Hence this amazing process is called **NUCLEATION ASSISTED CRYSTALLIZATION** or **NAC** in short.

ADVANTAGES & FEATURES



SALT-FREE SCALE PREVENTION



SALT-FREE SCALE PREVENTION

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PHYSICAL CHARACTERISTICS

Appearance		White / opaque solid granules
Composition		modified ceramic beads
Bulk density	SI	780 kg/m³
	US	48.7 lb / ft³
Particle size	SI	0.55 – 0.75 mm
Mesh size	US	20 x 35
Moisture content		10 – 25 %

OPERATIONAL PARAMETERS & WATER IMPURITIES

Flow direction		Up Flow
Recommended operating time	SI	5 – 80 °C
	US	41 – 176 °F
ph range		6.5 – 9.5
Hardness, max.	SI	1338 ppm (mg/l)
	US	75 gpg
Salinity, max.		35000 ppm (mg/l)
Iron, max.		0.5 ppm (mg/l)*
Manganese, max.		0.05 ppm (mg/l)
Free chlorine, max.		3 ppm (mg/l)
Copper, max.		1.3 ppm (mg/l)
Oil		free
Hydrogen sulfide		free

*FILTERSORB®SP3 is able to remove Iron from water with very high efficiency.

Note: Do not use where water is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the unit. System must be maintained according to manufacturer's instructions. Pre-treatment for sediment, Iron, Hydrogen Sulfide, Manganese, hydrocarbons and Copper may be required depending on conditions. Install systems in new facilities with copper pipe after six weeks of water use.

APPLICATIONS

FILTERSORB®SP3 has proven itself in a variety of applications as an alternative to ion exchange softening or other conventional water treatment methods. The maintenance-free characteristics make it especially suited for Foodservice and Commercial applications where equipment maintenance is often overlooked. FILTERSORB® SP3 treated water preserves the essential minerals Calcium and Magnesium, making the water most healthiest drink available.

Home Appliances: Faucets, water pipes, shower heads, shower cabins, toilets. All beverage systems, kitchen machines, dish washers, ice cubes, compact washers and dryers.

Major appliances: Central heating, air conditioners, water heaters, air humidifiers, coffee and tea makers, solar heating systems, water coolers.

Boilers: Hot water boilers, central heating boilers, combo boilers, catering water boilers, boilers and pool heaters, commercial water heaters, industrial hot water boilers.

Cooling towers: Closed circuit cooling towers, open circuit cooling towers, concrete cooling towers,cross flow cooling towers.

Industrial appliances: Winery, Car Washing, Diary Processing, Food & Beverages, Injection Moulding, Irrigation, Nurseries, Reverse Osmosis pre-treatment etc.

OTHER APPLICATIONS

- Irrigation
- Swimming pools and SPA
- Dairy Processing
- Winery and Beverages
- Planting and Gardening Automobile
- Washing
- Hotel, Restaurants and Institutions
- Coffee and Tea-machines
- Vending appliances ***and many more...***

BEST SUITABLE FOR

POINT OF USE

POINT OF ENTRY

COMMERCIAL

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WHY WE CONSIDER FILTERSORB®SP3 TO BE THE BEST?

- **No TDS change:** As FILTERSORB®SP3 does not remove or add anything to the water. As no ion-exchange chemistry is used,the TDS of the water remains unchanged before and after the treatment.
- **No pH change:** pH value of the water remains the same. This factor makes the treated water suitable for almost any use where corrosion is concerned
- **Biocidal effect:** The NAC process creates the conditio that water dissolved CO_2 agglomerate to form micro-bubbles. These CO bubbles actively destroy bacterial membranes acting as a biocide. So along with the scale prevention FILTERSORB®SP3 also helps to prevent Biofouling.
- **Minerals Preserved:** FILTERSORB®SP3 does not add sodium or any chemicals to the water. It simply preserves the Calcium and Magnesium contents of water, making the treated water arguably the healthiest mineral water available. Both Calcium and Magnesium are quintessential for nervous systems and muscles functionalities. They are indispensable parts in the cell chemistry of the plants and most of the life forms on earth.
- **De-Scaling:** Not only does FILTERSORB®SP3 prevent scale formation, but it also helps to remove the previ-ously formed scales. During the flow some of the micro-bubbles are losing a small amount of CO2, which diffuses rapidly in water and interact with surface scale, especially in closed spaces (pipes, boilers, etc). As a result, the scale which is already present on these surfaces is removed slowly.

CERTIFICATIONS

FILTERSORB®SP3

Certified under ANSI/NSF 61 from WQA, USA Tested to meet MSZ 448-36:1985 standard (Hungary). Certified from Department of Environmental Hygiene (Poland).
Tested to meet WRAS (Water Regulations Advisory Scheme, British Standard, UK) Standard of Product Quality and High temperature

Special Information: FILTERSORB® SP3 has good capacity to absorb Iron, Copper, Manganese, Lead, Zinc etc. Hence in high concentration presence of these contaminants the FILTERSORB® SP3 beads may change color and come to an end of the media life. From studies it's also possible that the media might change color due to dye leaching from the container tank made of polyethylene.

In case of any strange color change of the FILTERSORB® SP3 media beads or the treated water is noticed, please contact us with detailed water analysis.

Standard Packaging

Packging	Weight of product	Quantity/ pallet	Gross Wt./ pallet	Certification
Drum (60 L)	49 kg	18	965 kg	NSF/ANSI/ CAN 61 & 372

★ *Other packaging can be considered on request*

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Proud Member FGWA

MEMBER Water Quality ASSOCIATION

Member FWQA

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