



WATER TREATMENT

Electrical Sorption Technology E-Sorp Residential

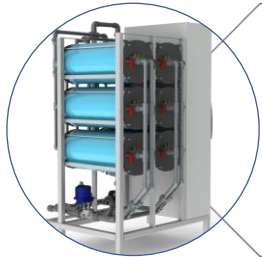
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E-Sorp Introduction



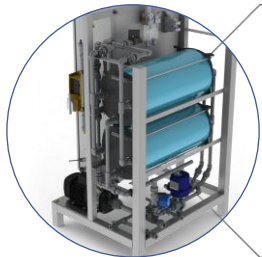
Desalination

- Desalination cut between 1-90%
- Chemical free
- High recovery, low energy, low pressure



Softening

- 90% removal of Calcium and Magnesium
- Chemical free, salt free
- No Sodium added



Denitrification

- Removal of 90% Nitrate and Nitrite
- Chemical free, salt free
- No Chloride added

E-sorp Residential

- Low pressure operation no matter the salt concentration
- High Recovery
- Chemical free
- Environment friendly
- Zero noise level
- Immediate quality control
- Quality tuning
- High quality tasty water without additives like conventional technologies



Added Value Residential



Demineralisation: residential tap water or well water happens to be in many countries/regions highly saline. Esorp reduces salinity in water without additives to desired salinity level



Softening: Esorp reduces/ removes water hardness from the water to desired level without additives like conventional technologies. No salt



De-nitrification: Esorp reduces/ removes nitrates from the water to desired level without additives like conventional technologies. No salt



Water tuning: desired reduction rate is set and Esorp maintains this level, continually adjusting itself to account for any fluctuations in the feed. Esorp makes the water taste perfect in accordance to everyman preferences



Green technology: Chemical-free desalination, chemical-free softening, chemical-free denitrification, no waste pollution, low pressure, low energy, high recovery



E-Sorp Residential vs. Ion Exchange

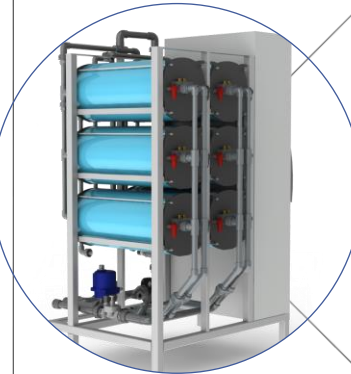
Softening

- **Ion Exchange** is simple removal of hard salts for just soft salts. Result is slimy texture and bitter tasting water. Technology requires salt to regenerate which is discharged to local environment
- **E-Sorp** is chemical-free technology physically removing the hard salts without the need of chemicals. Result is softened water with pleasant taste



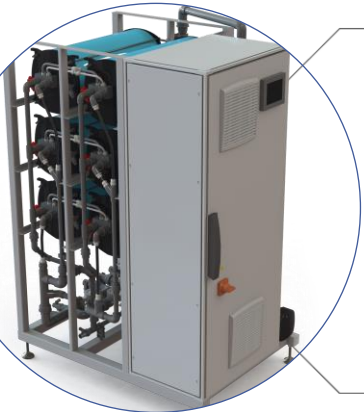
De-nitrification

- **Ion Exchange** changes unfavourably the ion composition; adding ions to the feed. Result is high level of chlorides which cause water tasting bitter and often beyond limit of potable water. Technology requires salt to regenerate which is discharged to local environment
- **E-Sorp** removes Nitrate ions without exchanging for chlorides or other ions



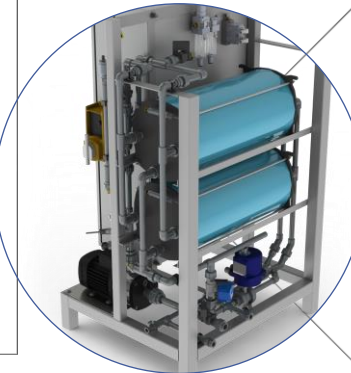
Desalination

- **Ion exchange** does not desalinate water; salinity remains the same
- **E-Sorp** removes salinity to desired level. E-Sorp maintains desired salinity to perfect taste as the client favours. We call it water tuning.



Quality Control

- **Ion Technologies** are delivered without any quality control in the residential market
- **E-Sorp** is delivered with in-built conductivity measuring which can be used as parameter for immediate quality control and maintenance



E-Sorp Residential vs. Reverse Osmosis

Water Tuning

- RO cannot be controlled what quality is delivered
- E-Sorp: desired reduction rate is set based on feed quality and preferences. E-sorp maintains set level, continually adjusting itself to account for fluctuations and delivers desired water quality



Operational pressure

- RO either operates with high pressure which causes noise, high energy consumption and other problems or with low pressure which accounts for very low recovery and poor quality
- E-Sorp operates on low pressure always: zero noise level, high recovery, perfect quality



Recovery

- Residential RO has typically very poor recovery and loss of pressure; lots of water goes to drain
- E-Sorp operates with high recovery and none pressure loss. It can be easily connected to water pipes



Down-Time& Maintenance

- RO requires lots of maintenance which results in lots of down-time, frequent membrane replacements
- E-Sorp is plug-and-play, easy-to-operate system with limited amount of components without high pressure. Maintenance is very limited due to the nature of process



Green E-Sorp



Chemical-Free

- E-sorp can be operated in many cases completely without chemicals. If chemicals have to be applied due to specific feed water chemistry then the consumption is highly reduced compared to traditional technologies



Energy Consumption

- The absence of high pressure leads to significant reduction of energy consumption compared to traditional technologies



Elimination of Blending

- Water tuning allows desired quality without water blending. Harmful concentrate salts are not discharged to local ecosystem which helps to stop local eco-salt pollution



E-Sorp Residential Summary



Quality Tuning: refers to ability to control the product quality & ion composition by adjusting inlet current in-rush to the modules within set limitations. Client controls the product quality and taste in accordance to own preferences



Robust and Reliable: E-Sorp consists of very few components. It is very simple process which is unlikely to destroy by mistake, by force or by ignorance. Very little down-time due to process nature



Quality Control: immediate conductivity measuring accounts for quality control



Plug and Play: every unit is wet-tested at BKG and pre-set. After connecting the unit it is literally push-the-button system



Green technology: Chemical-free desalination, chemical-free softening, chemical-free denitrification, no waste pollution, low pressure, low energy, high recovery,

