

PWN Technologies is a leading company when it comes to developing innovative drinking water technology. We translate our know-how into sustainable solutions for water supply. Our latest solution is called SIX: a new resin treatment technology for drinking water, which has many advantages compared to other ion exchange processes.



For more information, please visit:
www.pwntechnologies.com

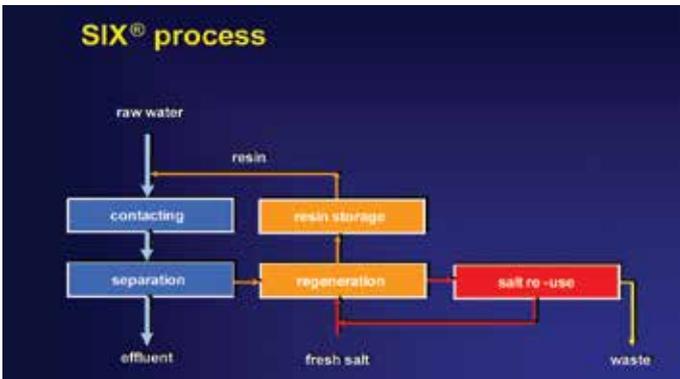


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SIX

Resin treatment technology for drinking water

In the past three years PWN Technologies has developed a new ion exchange process for the direct treatment of water containing high amounts of suspended matter and organics, such as surface waters. SIX is a suspended ion exchange process, suitable for purifying untreated surface waters. It involves not just an ion exchange process, but also resin separation and dosing of regenerated resin. In addition SIX includes techniques for reducing the level of salt regeneration. The process design is based on a fully validated model and can be adapted to all commercially available resins.



Only a limited amount of test data is needed to design a pilot or a full size plant. The process can achieve a very high rate of organics removal.

Compared to other ion exchange processes for treating water containing suspended matter and organics, the single pass ion exchange process (SIX) distinguishes itself by compactness, a low resin concentration and inventory, low salt usage, high effluent quality and full control of the adsorption process without blinding the resin or producing biomass. The adsorption of the SIX process has been modeled to such a degree of accuracy that it is possible to design a reliable installation for any commercially available resin based on only a few jar tests. As the resins used have optimal adsorption capacities and rates, the overall performance is unsurpassed.

Additional advantages:

- ▶ No pumps are used to displace the resin, resulting in low attrition rates
- ▶ New sensors are used to control resin concentration and water quality
- ▶ Additional technologies have been developed to reduce salt usage

Benefits

- ▶ Unit is very compact with a small footprint
- ▶ Model is fully validated
- ▶ Reduced resin inventory
- ▶ Full control
- ▶ 100% regeneration of dosed resin
- ▶ No risk of resin blinding
- ▶ Short resin contact times; no risk of biofouling
- ▶ Low resin attrition; minimal resin loss
- ▶ Can be used with all commercially available resins



PWN Technologies: innovation engine

PWN Technologies, a subsidiary of water supply company PWN in the Netherlands, was established to make the utility's innovations in water treatment available to other water companies around the globe. The revenues of PWN Technologies are invested in R&D programmes to strengthen PWN's position as an innovative water supply company. PWN Technologies has developed advanced and sustainable solutions in water treatment, based on suspended ion exchange, ceramic membrane applications and advanced oxidation. PWN Technologies is located in the Netherlands (Velsbroek and Andijk) and Singapore.



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