

Nordic Desal pretreatment

Desalination is key in order to have potable water in some regions of the planet where sweet surface water is originally scarce. In addition, the global warming increases desertification and more and more often sea water desalination is the only way to get drinkable water.

However, the facilities for desalination, often imply large size installations, with several treatment steps and chemical addition before the membrane systems, in order to protect the membranes and make it an efficient step, since it is the treatment of the desalination process that needs more energy consumption.

Nordic Water, with its continuous sand filtration DynaSand®, provides filtration solution prior to the reverse osmosis membranes that not only reduces de number of pretreatment steps, and hence the facility’s footprint, but also the global energy consumption and chemicals’ dose.

A two-stage filtration with DynaSand filters, substitute the basins of DAF (Dissolved Air Flotation) and conventional open sand filtration and closed vessel sand filtration treatments.

DynaSand

DynaSand deep-bed filtration normally offers the lowest TSS effluent values, without using upstream flocculation tanks and use of polyelectrolytes. This process gives lowest chemical usage. With contact filtration, no polymers are used in the main water stream – the only coagulants used are iron or aluminium metal salts.

Effective wash water treatment

Wash water treatment is an effective method of taking care of the flush water from the contact filters. The wash water treatment involves processing in a flocculation tank, followed by separation. Gravimetric thickening is carried out in a Lamella separator, also provided by Nordic Water. This set-up enables the total level of flush water loss to be kept to as low as 2% of the incoming flow.

| | Output values |
|-----------|---------------|
| Turbidity | < 0.5 NTU |
| SDI | < 3 |

