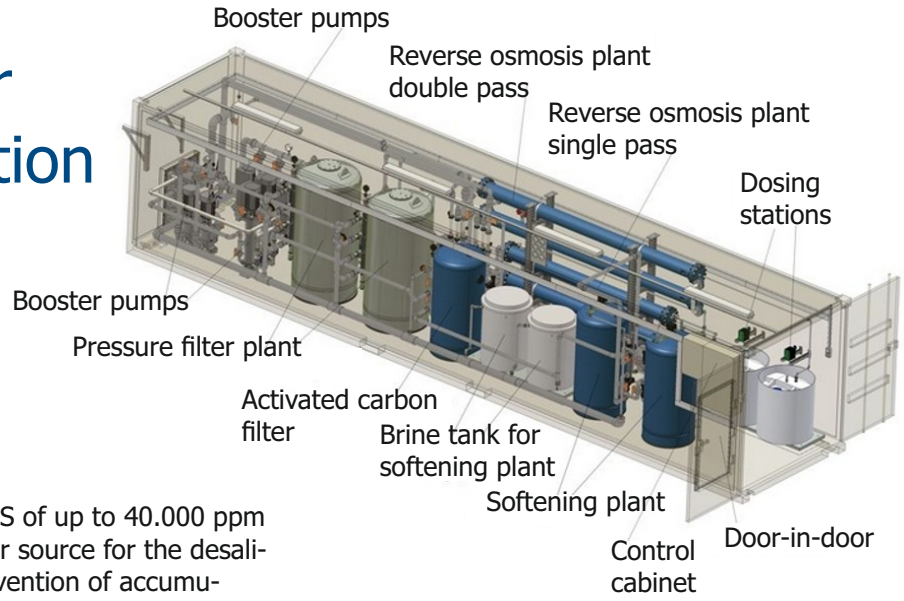
ACON
ENVIRONMENT

CONTAINERIZED SEAWATER DESALINATION

Packaged Plants for Water Treatment

Seawater Desalination Plant



Raw water with a TDS of up to 40.000 ppm serves as a raw water source for the desalination plant. For prevention of accumulation, suspended solids on the membrane surface the raw water is filtered over a fine filter. This pretreatment measure guarantees that no solids interfere with the desalination process.

Reverse osmoses is a reliable technology for desalination. Therefore the required intake water quality to the reverse osmoses is essential. It is known that, most of the operation problems of an reverse osmoses system is linked with poor quality of intake water to the reverse osmoses.

It´s very important to take proper pretreatment technology in order to optimize the lifetime of membrane, chemical dosing duration, operation cost, project construction space, project capital investment, and so on. Therefore, an efficient pretreatment has to be established by the client to guarantee the system running.

The desalination equipment is installed in one container, which is completely prefabricated.

Typical Analyses

		Feed	*Product Water*	*WHO-Recommendations*
Calcium	ppm	416	35,8	-
Magnesium	ppm	1326	10,2	-
Sodium	ppm	12623	96,8	-
Potassium	ppm	386	6,2	-
Chloride	ppm	22165	180	250
Sulphate	ppm	2939	13,7	400
Nitrate	ppm	0,9	0,0	-
Bicarbonate	ppm	143	100,3	-
Iron	ppm	< 0,3	< 0,3	< 0,3
Manganese	ppm	< 0,1	< 0,1	< 0,1
Silica	ppm	2,0	0,0	-
TDS	ppm	<40000	<300	500
SDI (-)		max 5	< 1	-
pH (-)		~8	7	6,5 - 8,5
Temperature	°C	20	20	-

Production of drinking water and water for irrigation and industrial processes. Containerized package plants with a capacity up to 500 m³/day consisting of:

Scope of Supply

Container-frame: 40 ft according to ISO-standard (12,4 x 2,4 x 2,8 meter).

Fine filters: 100 % standby, easy handling, bag filters rating: 5-10 micron, non corrosive plastic housing.

Pressure pump, Energy recovery: high-efficient plunger pump with pressure exchanger.

RO elements: 8" spiral wound high rejection type, OEM-warrenty 3 years.

Pressure vessels: high-quality GRP-vessel.

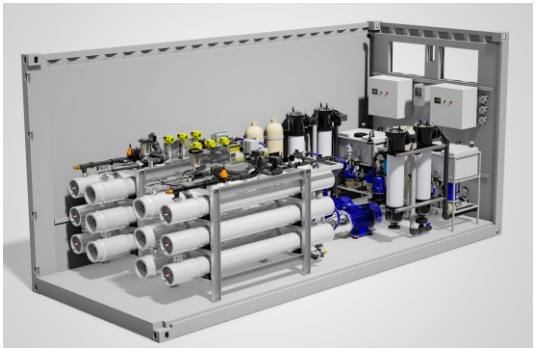
Chemical dosing: 2 complete dosing stations for acid and sodiumbisulfite including stand-by pumps.

Cleaning unit: complete automatic cleaning-in-place ("CIP") system.

Remote control: GSM-based on-line support

Options

- pH Adjustment
- Remineralization
- Post disinfection
- Data monitoring



Highlights

- Low specific water costs due to high energy efficiency: ~2,5 kWh/m³ (with energy recovery)
- Compact modular units
- Low chemical consumption
- High quality materials like GRP, seawater resistant
- stainless steel (SMO 254, 1.4539 Duplex)
- All plants are function-tested prior to dispatch to allow for quick start-up at site
- Complete installation into a 40 ft container

Acon optionally provides all required pre- and post treatments, according to your water analyses and permeate requirements.

Please contact us for further information.

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