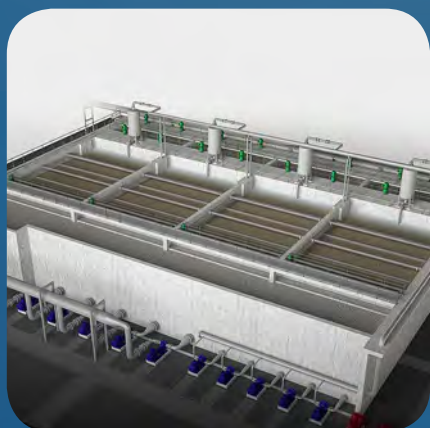
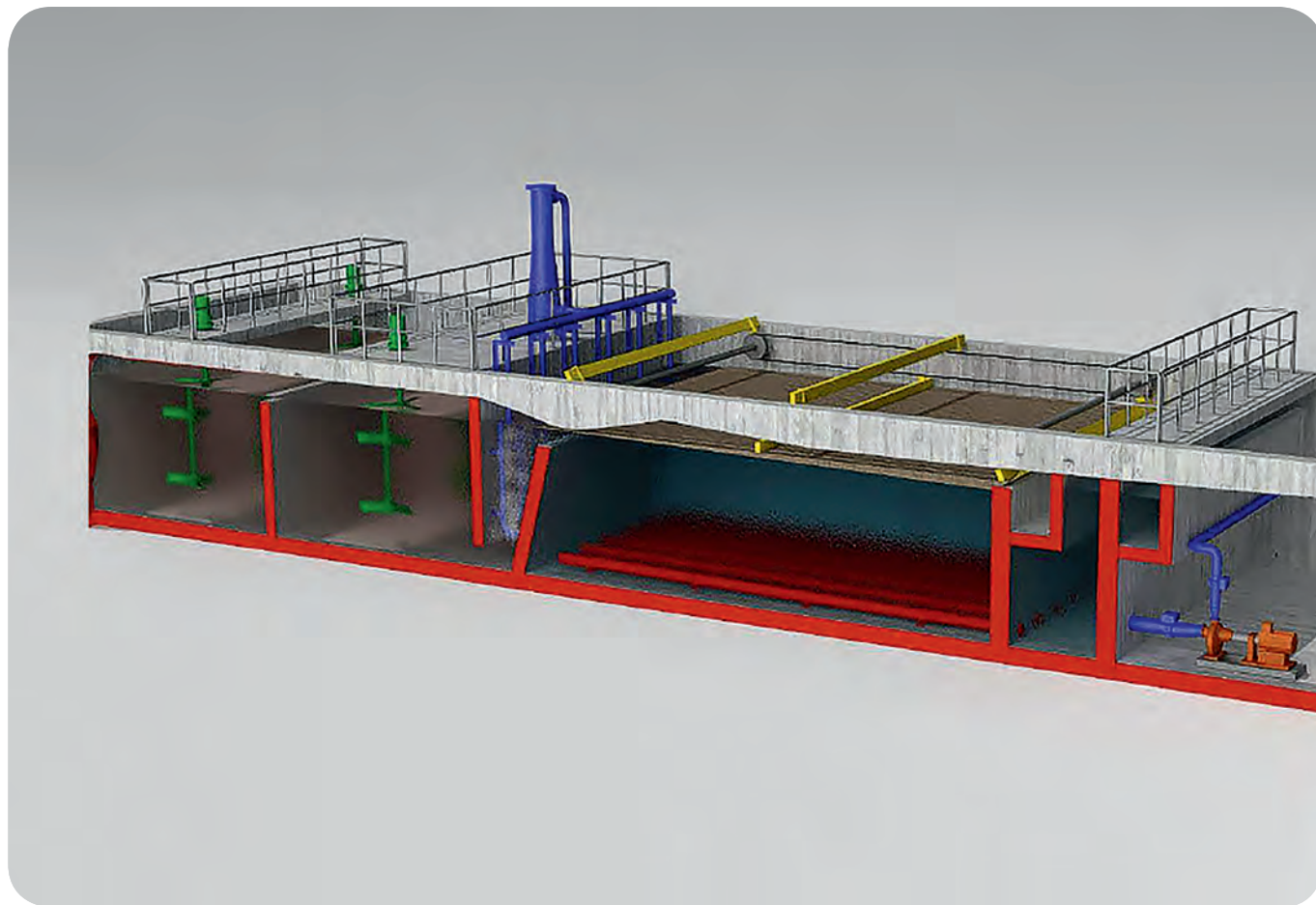




# SEAWATER

## SEAWATER-DESALINATION PRE-TREATMENT SYSTEM





Pre-Treatment with DAF

## Technology and concept

The design and engineering for the seawater desalination plant is made from PROBIG®. The DAF-scrapers are totally made in non-metallic. In the large majority of the applications, our technology includes three stages of the water treatment process:

- Mechanical pre-treatment via course and fine screens
- Coagulation/flocculation or simply flocculation
- Clarification by dissolved air flotation

Our technology is used in multiple cells in order to provide continuous operation of the plant. Thus, each single cell can be isolated individually for maintenance without over-loading significantly the other cells.

## Main applications

Our technology is suitable for the clarification of large fresh or sea water flows, including coagulation and flocculation process.

- Drinking water production from fresh or sea water is a typical application. During the warm season these waters might contain a significant amount of algae and organic substances that is particularly difficult to separate by sedimentation. Dissolved air flotation technology gives excellent clarification efficiency before the granular media filtration step.
- Drinking water production from borehole water might also require a first clarification step before sand filtration to prevent occasional increase in the turbidity and extend the operation cycle of the sand filters.
- Tertiary treatment for hard COD and phosphorus removal.





DAF-scraper totally made in plastic

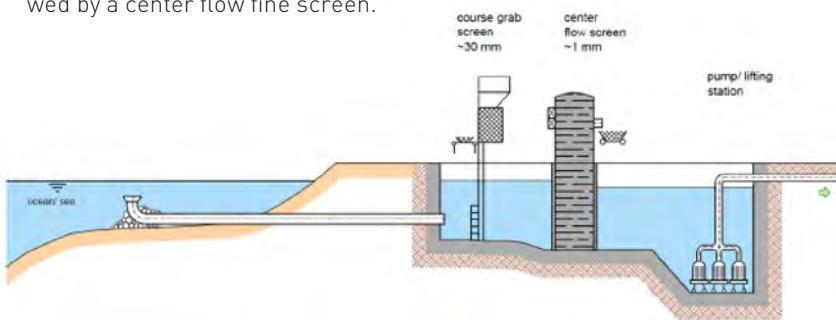


Shafts in GRP

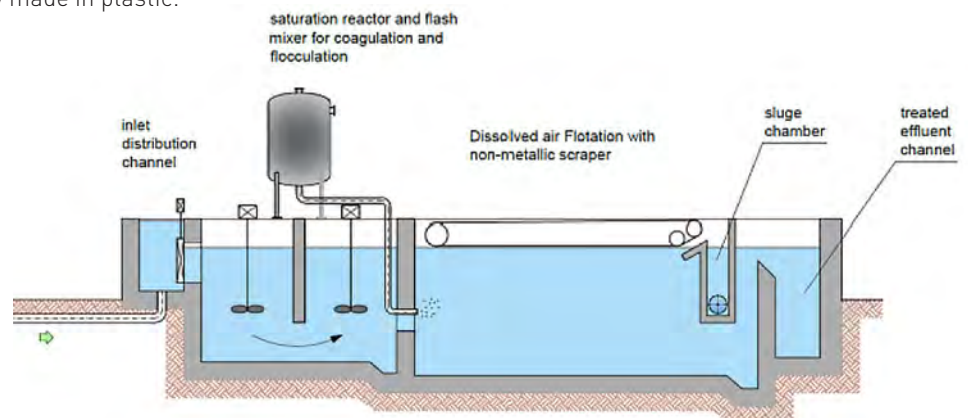
## Effective and reliable treatment

The seawater pre-treatment system is a combination of different water treatment process steps. The entire solution is specially designed for seawater treatment and consists of following stages:

- Mechanical pre-treatment via course and fine screen technology in order to remove easily separable particles, solids and organic parts from the liquid stream itself. The sea water will be filtered in two stages with a grab course screen followed by a center flow fine screen.



- PROBIG® Chemolution technology is used upstream: the chemical pre-conditioning or pre-treatment of the flotation plant renders turns colloidal dissolved and undissolved substances and constituents ingredients of water into a soluble separable form.
- DAF - Dissolved Air Flotation is a separation process, mostly in which micro-bubbles are generated and fed into the waste water, known as recycling flow process. The waste water substances and the waste load flocs created before using flocculation aids agents are displaced separated by the micro-bubbles and thereby made to rise to the surface and float. The flotation flotat sludge formed from by the floating solids is separated securely on the surface and removed from the water using a chain scraper system totally made in plastic.



## Benefits and advantages

- Our technology is perfectly adapted to multiple concrete tanks construction
- Minimum space requirement because of associated flocculation and flotation tanks
- Minimum interconnecting pipes and instrumentation
- Accepts high and variable SS concentration in the raw water in providing reliable clarification by flotation
- Excellent solution for algae and 'red tides' or other light organic material removal
- The floated sludge produced has a high concentration of approx. 3% independent of the amount of suspended solids.  
Thus it does not need thickening and can be sent directly to de-watering

## Global customers trust in PROBIG®



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**Internationally  
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**PROBIG GmbH**

Haid 57  
4870 Vöcklamarkt  
Austria

Tel.: +43 (0) 76 82/22 633-0  
Fax: +43 (0) 76 82/22 633-20

office@probig.com  
[www.probig.com](http://www.probig.com)



**SYSTEM CERTIFIED**

ISO 9001:2015 No.06341/0-1  
ISO 14001:2015 No.01214/0-1  
BS OHSAS 18001:2007 No.00405/0-1

**PRO** SOLUTIONS FOR  
WATER TREATMENT