DESALINATION

Member of the SafBon Group

DAF TECHNOLOGY FOR SEAWATER DESALINATION

KWI Group is considered one of the pioneers of Dissolved Air Flotation (DAF) technology and is one of the oldest existing DAF unit manufacturers in the world.

Our DAF range includes 11 standard models, as well as custom designs, to meet all customer requirements.

With nearly 70 years' experience and the supply of 7000 DAF units for 4700 references globally, our Group is strategically qualified to bid for large desalination plant projects.

Algae removal has always been a challenge in the seawater desalination process.

KWI's DAF unit is a proven technology already used in Europe and in the Middle East, as effective pretreatment upstream of seawater desalination systems.

Indeed, Unicell® BF (DAF unit) is a robust and simple process to use. Even the stop and start phases do not disrupt its efficiency on algae treatment!

Today, there is a constant demand for innovation to improve reliability, reduce CAPEX and OPEX, including the consumption of chemicals from the desalination plant.

By bringing together the expertise of KWI, a specialist in pre-treatment by flotation, and ItN, a specialist in ceramic ultrafiltration, **we offer an innovative and economical combination:**

KWI UNICELL® BF DAF unit

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ItN membranes CFM System®

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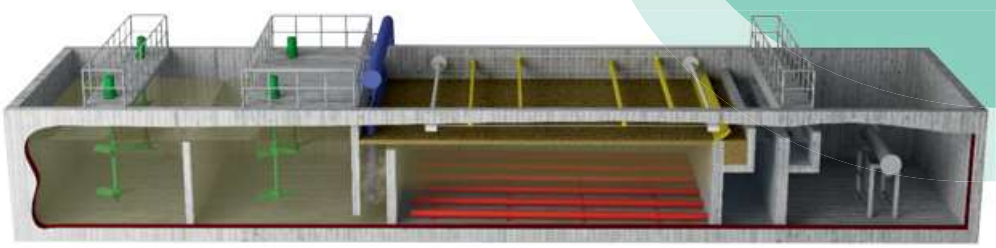
High performances with a long life-span and less operation costs

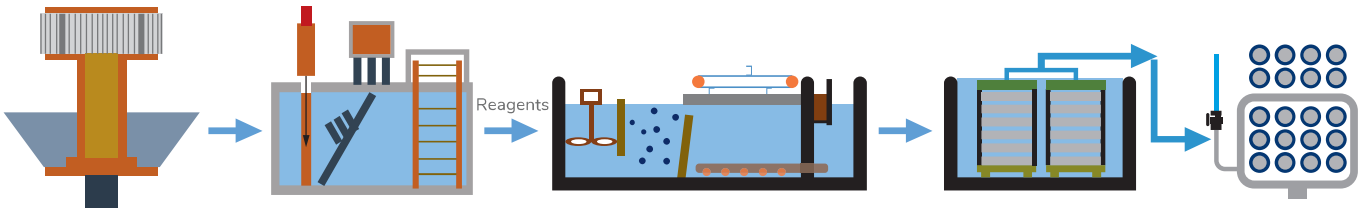
KEY FEATURES AND BENEFITS

- Outlet turbidity less than 1 NTU
- TSS removal efficiency: 95%-99%
- High hydraulic load: maximum 25 $m^3/(m^2.h)$
- **High Algae removal efficiency: 95%-98%**
- High sludge concentration: max. 5% of solid content
- **Only seawater resistant materials**
- Small footprint



UNICELL® BF

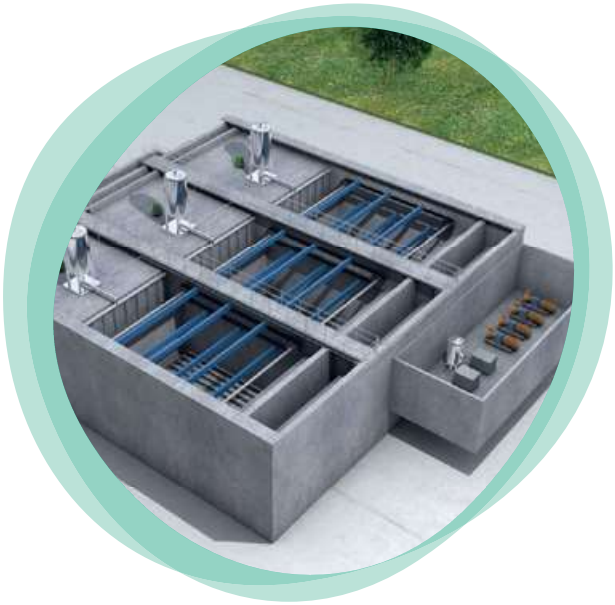
Typical Process of Seawater Desalination



Intake | Screen | KWI DAF unit (UNC BF) | ITN CFM system® | SWRO

Performance & Operating Parameters

Maximum feed suspended solids:	100 mg/l
Effluent water turbidity:	<1 NTU
Algae removal efficiency:	95%-98%
Sludge concentration:	3-5%
Recirculation ratio:	15%-20%
Air dissolving rate:	>80%



Unicell® BF range

TYPE	MAXIMUM INLET FLOW* (m^3/hour)	SCRAPER POWER (kW)	FLOTATION AREA SIZE** L×W (m)
UNCBF30	750	0.25	6.71 x 5.5
UNCBF40	1000	0.25	7.9 x 6
UNCBF50	1250	0.25	9 x 6.5
UNCBF60	1500	0.25	9.9 x 7
UNCBF70	1750	0.25	10.2 x 8
UNCBF80	2000	0.25	10.2 x 9
UNCBF90	2250	0.25	11.2 x 9
UNCBF100	2500	0.25	11.5 x 10
UNCBF110	2750	0.25	12.2 x 10
UNCBF120	3000	0.25	13.4 x 10

*The maximum flow includes recycle flow and depends on SS loading and on the application. **Including flocculated water / pressurized water mixing zone.

KWI specialists have vast expertise and experience ranging from engineering to building and commissioning, and from investment to operation.

Let's work together to make your project a success!

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