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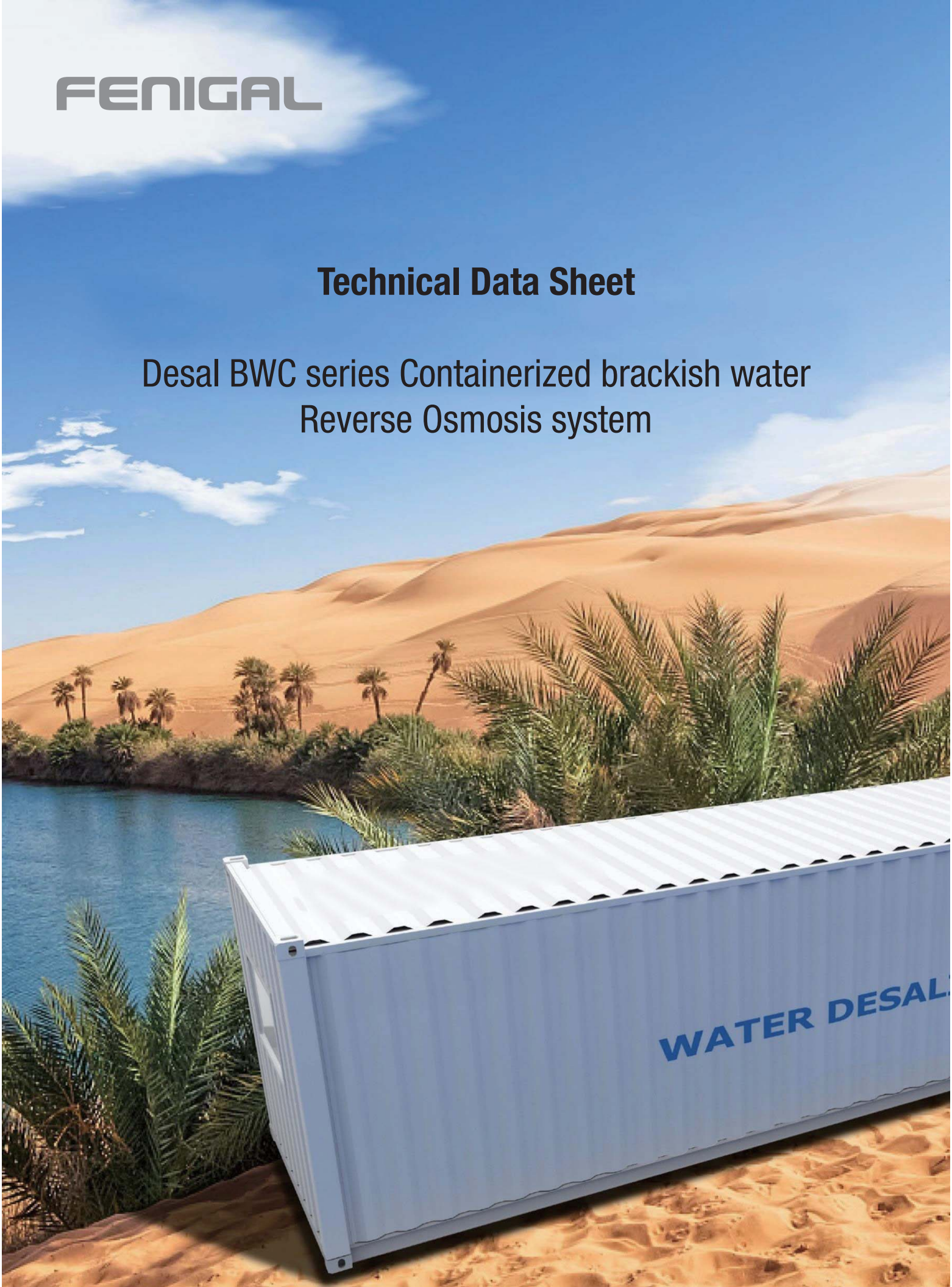
Technical Data Sheet

Desal BWC series Containerized brackish water Reverse Osmosis system



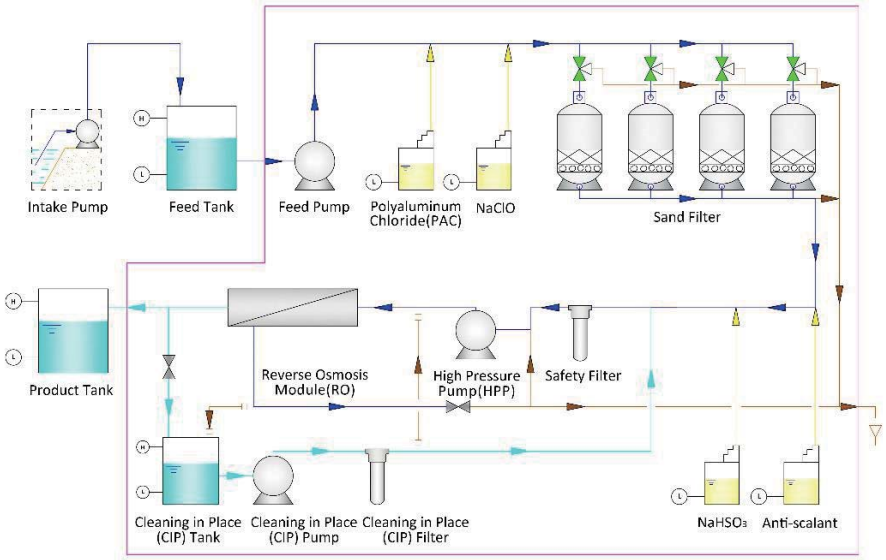
Description

Desal BWC brackish water reverse osmosis system is a containerized desalination solution, with most parts installed into 1 or 2 containers, and fresh water capacity of 100 to 2,000 m^3/day (4,080- 83,270 liters/hour). The water intake recommendation, extra pre - treatment and post - treatment customization services could be provided by the our technical team upon request .

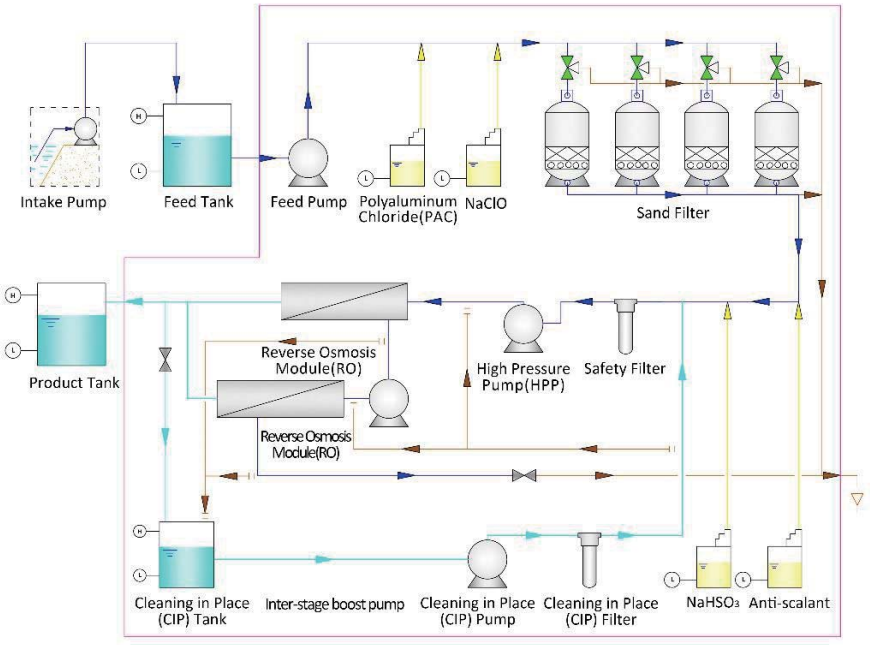
Desalination process

The desalinationprocessaims to take away salt from brackish water The Reverse Osmosis membrane process starts by filtering feed water particles through applying pressure from the feed pump to the sand filter (No need to use sand filter if the feed water turbidity is lower than 0.3 NTU), then entering the high-pressure pump, to pressurize fresh water out through the membrane, while concentrated water is discharged after pressure relief.

Desal BWC100 - 200



Desal BWC500 - 2000



Water quality standards

Feed water standards	
Salinity (TDS)[1]	1,000 - 5,000 mg/L
Temperature	5-35° C
Turbidity[2]	< 40 NTU
Chemical Oxygen Demand (COD)	< 10 mg/L
Ferrous (Fe2)	< 0.1 mg/L
Manganese (Mn2)	< 0.1 mg/L
Oil and grease	0 mg/L
Product water standards	
Salinity (TDS)[3]	< 500 mg/L
pH	6-8
Turbidity	< 0.2 NTU

Notes:

1) If feed water salinity is out of the range, please contact us for solution.

2) If feed water turbidity is higher, extra pretreatment might be needed.

3) The produced drinking water meets the WHO Guidelines for Drinking Water quality, 4th edition, 2012.

Desal BWC traditional desalination system

Feature comparison table		Traditional desalination system	Desal BWC
Cost	Civil Works	100%	66%
	Installation	100%	14%
	Commissioning	100%	15%
	Equipment	100%	95%
	Total	100%	82%
Time	Civil Works	100%	63%
	Installation	100%	30%
	Commissioning	100%	33%
	Total	100%	52%

Note: the comparison is calculated roughly on the basis of 1,000m³/days water production.

System characteristics

- Quick installation and commissioning: Most of the installation is completed before delivery.
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- Better corrosion resistant: Using Sch10 SS316 high pressure pipe and fittings, and heavy duty paint.
- Low energy consumption: Using high- efficiency high pressure pump, IE3 motors and low energy consumption RO membrane.
- Fast restoring: In case of malfunction, the whole system can be restored quickly by using standard parts.
- Better filtration: 3 steps filtering process including sand filter, pre - filter and main filter to ensure better protection for high pressure pump, energy recovery device and RO membrane.
- Long service life: The wet parts are made of duplex, SS904L, UPVC or other plastics and the heavy duty marine paint is used for frame and container.
- Upgrade on demand: We can add sensors according to customer needs, collect data remotely and provide operational consulting service.

Extensive applications

- Island residents
- Towns and Small cities
- Golf courses
- Mining operations
- Agricultural exploitations
- Hotels and Resorts
- Power plants
- Cooling towers
- Other customized applications

Technical specifications

Desal BWC100 - 2000

Technical Data	Unit	BWC100	BWC200	BWC500	BWC1000	BWC1500	BWC2000
Rated Product Flow[1]	M^3/H	5	10	22	42	65	85
	L/S	1.39	2.78	6.11	11.67	18.06	23.61
Rated Recovery Rate[2]	%	70	70	70	70	70	70
Rated Feed Flow	M^3/H	7.14	14.29	31.43	60	92.86	121.43
Max System Pressure[2]	barg	20	20	20	20	20	20
RO Membrane Spec.	inch	8,040	8,040	8,040	8,040	8,040	8,040
RO Membrane Qty.	pcs	6	12	25	50	108	108
Weight (dry)[3]	ton	5	6	12	16	26+6	26+6
Container size	ft	20	20	40	40	40+40	40+40
Rated Power[4]	kW	7.9	15.6	23	44.4	64.4	89.4
Energy Consumption[4]	kWh/M^3	1.58	1.56	1.04	1.06	0.99	1.05
Installed Power[5]	kW	18.9	30.2	37.2	70.7	103.2	138.7
Power Input		3PH, 380 AC±10%, 50Hz					

Notes:

1) The rated product flow and rated recovery rate are based on the design feed (4,000 ppm, 20C brackish water), other recovery rate could be reachable, contact us for details.
2) The normal operating system pressure shall be higher than the minimum system pressure above. Higher maximum system pressure could be applicable upon request.
3) The dry weight excludes water (operating or other).
4) The rated power and energy consumption calculation are based on a design feed (4,000 ppm, 20C brackish water), the rated flow and rated recovery rate. The calculation include the power of feed pump, high pressure pump (HPP), interstage boost pump, cleaning in place (CIP) pump, dosing pumps, but exclude the power of intake pump, product distribution pump and air conditioner.
5) Installed power includes feed pump, HPP, interstage boost pump, CIP pump, dosing pump and lights.

Warranty

Provided that the equipment has been running according to the QT's specifications in the operational manual, QT provides a 12 month guarantee from date of commissioning, and maximum of 18 months from date of production.

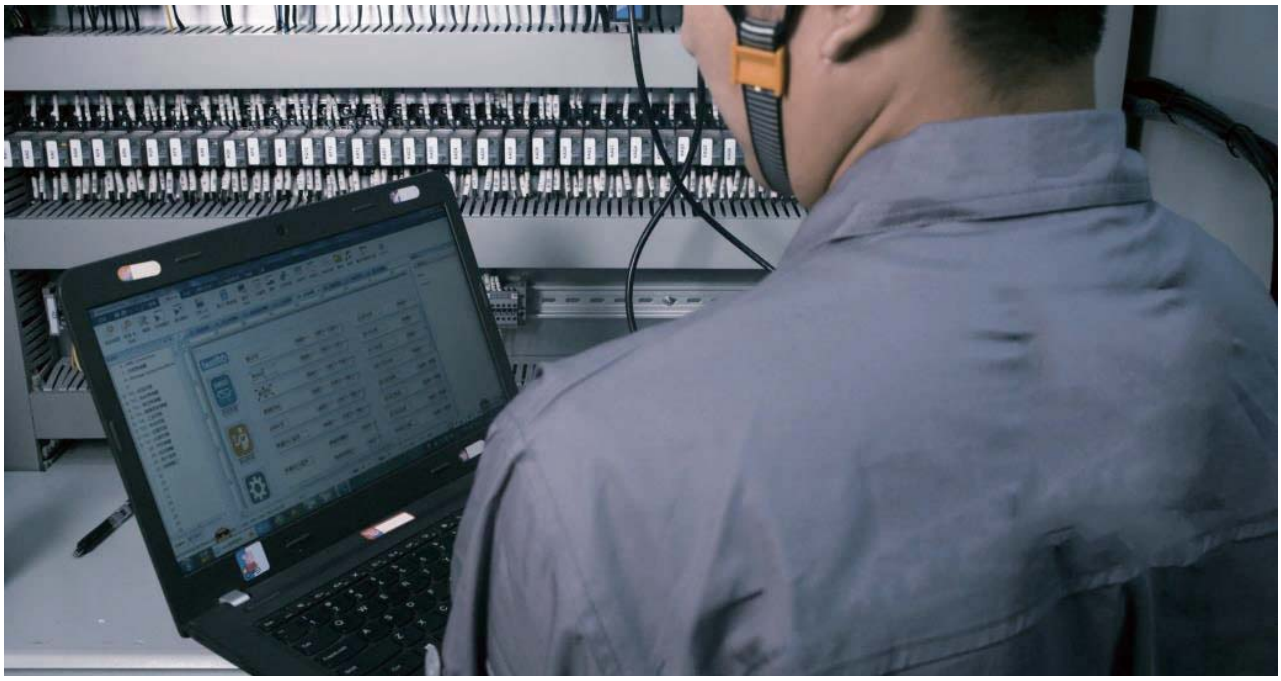
Ordering information

Desal BWC Type	Desal BWC Code No	Filter Kit Code No	Insulation Kit Code No
BWC100-H	204A103	244P003	254P003
BWC200-H	204A105	244P005	254P003
BWC500-H	204A107	244P007	254P007
BWC1000-H	204A109	244P009	254P007
BWC1500-H	204A110	244P010	254P007
BWC2000-H	204A111	244P011	254P007
BWC100	204A003	244P003	254P003
BWC200	204A005	244P005	254P003
BWC500	204A007	244P007	254P007
BWC1000	204A009	244P009	254P007
BWC1500	204A010	244P010	254P007
BWC2000	204A011	244P011	254P007

Notes:

1) Filter Kit: Filter elements, normally for 1 year usage, worse feed may cause extra use. For feed water with a high level of salinity, turbidity or a higher organic matter content can lead to overuse.
2) Insulation Kit: Heat insulation & air conditioner.

Product Gallery

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