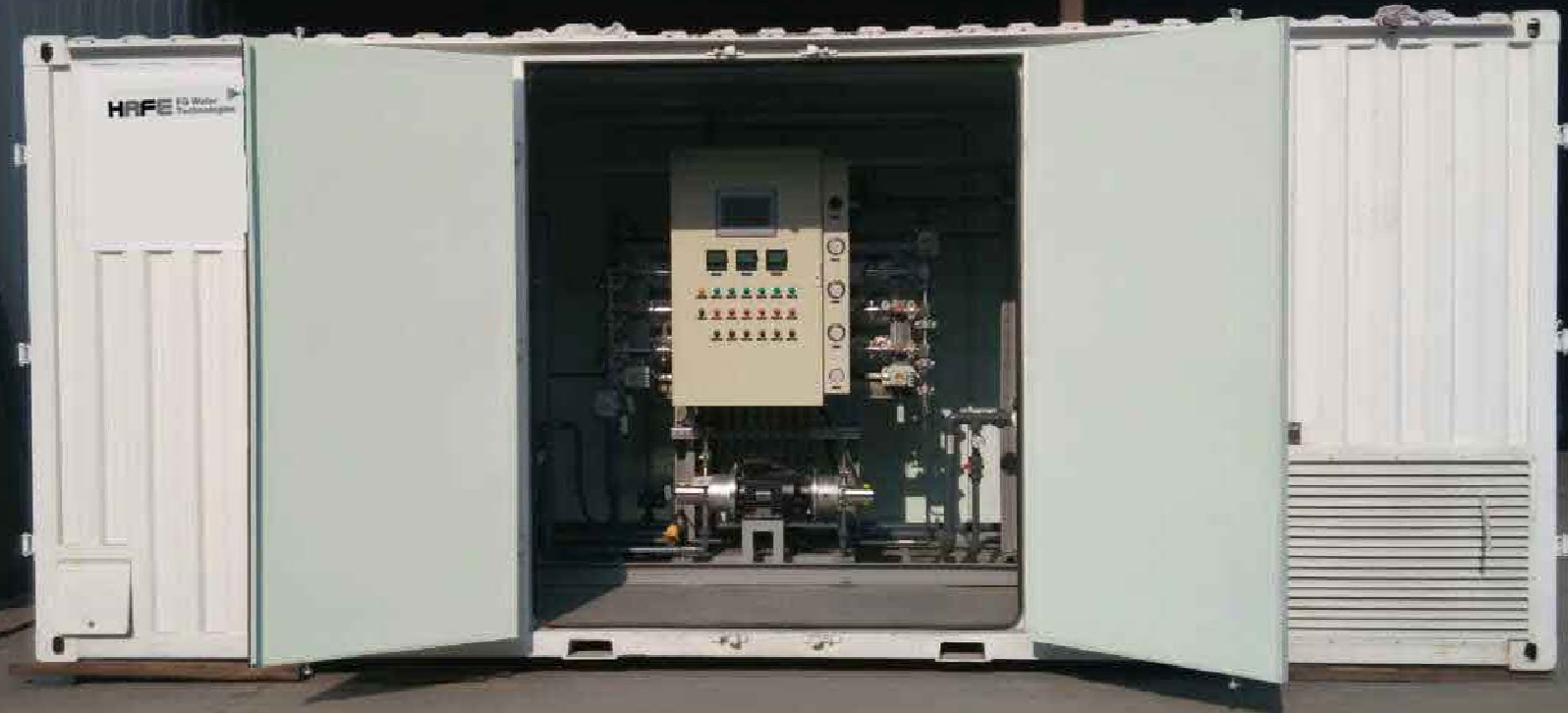


FG Water Containerized Seawater/Brackish Water Reverse Osmosis System



System Brief

Generation capacity of pure potable water from 60 to 1000 ton (15 -260 thousand gallons) per day.

The system is a containerized desalination system based on reverse osmosis principle which is the most popular water treatment technology in the world.

The system is designed to install the pretreatment system, RO system, chemical cleaning system and chemical dosing system all into the container. Containerized design minimize the site installation and erecting time of the desalination system. No need extra roof for the system.

Containerized system also make the transportation much easier.

To ensure the reliability of the desalination system, the core parts are from the well-known manufacturers in water treatment area, such as Danfoss, LG Nano, ROPV, Siemens, Schneider, ABB, etc.

Designed and manufactured on the basis of the industrial standard: ASME, ASTM, IEC, etc.

The seawater is taken by an intake pump and sent to a feed tank (if seawater is taken from a very close place and the water turbidity is quite low, seawater could be sent directly to the system).

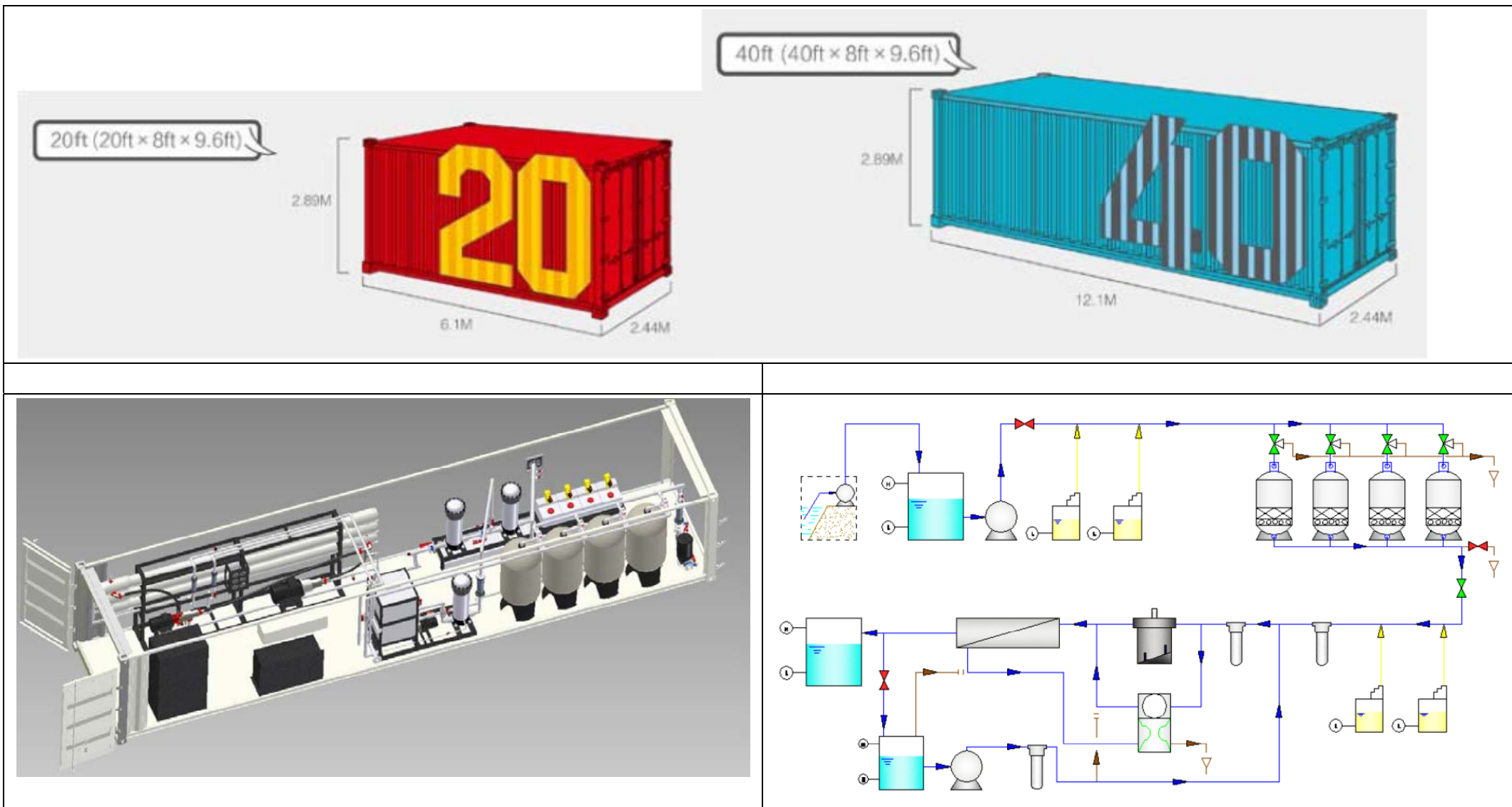
Working Mechanism

Seawater from feed tank is boosted by feed pump and is sent to media filter to remove particles. After too pass cartridge filter, seawater is pressurized by high pressure pump and sent to membrane. Thus we got fresh water, while the same time the concentrated water is discharged directly. Please refer the following process flow diagram for more details.

Applications

- Island residential
- Hotels, resorts
- Construction Site
- Emergent water supply, mobile water plant
- High salinity underground water

System Construction



Technical Specifications

Technical Data	Unit	FGC028	FGC035	FGC045	FGC065
Rated Product Flow 1)	M ³ /H	2.8	3.5	4.5	6.5
	Cft/h				
Rated Recovery Rate 1)	%	35	36	35	35
Min Pressure In 2)	barg	4	4	4	4
Max Pressure In	barg	6	6	6	6
Min System Pressure 3)	barg	20	20	20	20
Max System Pressure 3)	barg	70	70	70	70
RO Membrane Spec.		8040	8040	8040	8040
RO Membrane Qty.	pcs	5	6	8	12
Membrane housing Qty.	pcs	2	2	4	4
Rated Power 4)	kW	20	25	32	44
Input 5)		3PH 380V AC±10%, 50Hz			
Note:					
1. The rated product flow and rated recovery rate are based on the design feed (35,000 ppm, 20°C standard seawater), if the feed TDS is lower, higher product and higher recovery rate could be available; If the TDS is higher, the capacity might be cut and the recovery rate might be lower to ensure the safe operation, contact us for details.					
2. As the system has no feed pump, an intake pump or feed pump should be added to provide the required pressure.					
3. The normal operating system pressure shall be above the minimum pressure. If higher pressure above 70bar is needed, please contact QT for solution.					
4. The power consumption at 70 bar, normally lower. The power of intake pump and/or feed pump are not included.					
5. Other input voltage and frequency is available on request.					

FG Water Containerized Seawater/Brackish Water Reverse Osmosis System

No	Type	FGC028	FGC035	FGC045	FGC065	QTY	Material	Manufacturer
	Code No.	104A002	104A003	104A004	104A006			
1	Sand filter							
	Filter tank	3 x Φ600	3 x Φ600	4 x Φ600	4 x Φ750	1	FRP	Jieming
	Sands weight	1.2 ton	1.2 ton	1.6 ton	2.6 ton	1		HAFE
2	SWRO (Type, quantity and manufacturers of membrane, color and logo of container could be customized)							
	Pre-filter	1 μm, nom				1	UPVC/FRP	China
	Main filter	5 μm, abs				1	UPVC/FRP	China
	High pressure pump (with VFD)	Axial piston pump				1	SS2507	Danfoss
	Membrane housing	1 x 3, 1 x 2	2 x 3	4 x 2	4 x 3	1	FRP	ROPV
	Membrane qty (8040)	5	6	8	12	1	complex	Nano H2O
	Frames	With corrosion resistant paint				1	CS	HAFE
	High press. piping	PN100				1	SS2205	HAFE
	Low press. piping	PN10				1	UPVC	Hershey
	Container	20ft				1	CS	China
3	Chemical cleaning and dosing							
	Flushing/CIP pump	Single stage or multi-stage centrifugal pump				1	SS316	CNP
	CIP filter	For 20 μm pleated cartridge				1	PP	China
	CIP tank	200L	200L	400L	600L	1	PE	Jiangnan
	Dosing pump	4				1	WP: plastic	Miltonroy
	Dosing tank	4				1	PE	Jiangnan
4	Instruments & control & accessories (Type, quantity and manufacturers of instruments and touch screen could be customized)							
	Pressure gauge	Anti-vibration, range: 0-10bar				7	WP: SS316L or PP	China
	Pressure gauge	Anti-vibration, range: 0-100bar				1	WP: SS316L	Wika
	Pressure gauge	Electric contact, range: 0-100bar				1	WP: SS316L	Wika
	Low pressure switch	Range: 0-10bar				1	WP: Ni-plated	Danfoss
	ORP meter	Online				1	complex	Suntex
	Product conductivity	Online, 0-2,000 μs/cm				1	complex	Suntex
	Flow meter	For product water, Peddle wheel				1	Plastic	Lucenline
	Flow meter	For Feed/brine/CIP, rotor				3	Plastic	Yinhuan
	Level switch	For feed tank, product tank, floater				4	Plastic	Fine
	Control cabinet	Core parts: Schneider; PLC: Siemens				1	Housing: CS	HAFE
	Spare and consumables	O-rings, spare gauges, spare couplings and UPVC fittings, 1 year filter kit, tools				1		HAFE
A	Optional							
A1	Filter kit	1: 50x2.65" 2: 50x2.65"	1: 70x2.65" 2: 70x2.65"	1: 90x2.65" 2: 90x2.65"		1	PP	HAFE
A2	Intake pump & Feed pump	Recommended by HAFE				1		
A4	Insulation kit	With insulation decoration and air conditioner for RO container				1	complex	HAFE
A5	Touch screen kit	With 10 inch Delta touch screen and instruments. SCADA programming is included				1	complex	HAFE