

SEA WATER REVERSE OSMOSIS DESALINATION SYSTEM



SEA WATER REVERSE OSMOSIS (SWRO) DESALINATION SYSTEM

- About 97% of the earth's water is sea water, which is not fit for human consumption. Desalination converts sea water into potable and process water for municipal populations, industrial users and agriculture.
- We offer the latest energy saving reverse osmosis technology to ensure an economical supply of high quality potable water from sea water, especially in water-stressed countries.
- We have more than three decades of experience in SWRO systems with supply of over 250 sets of RO systems.

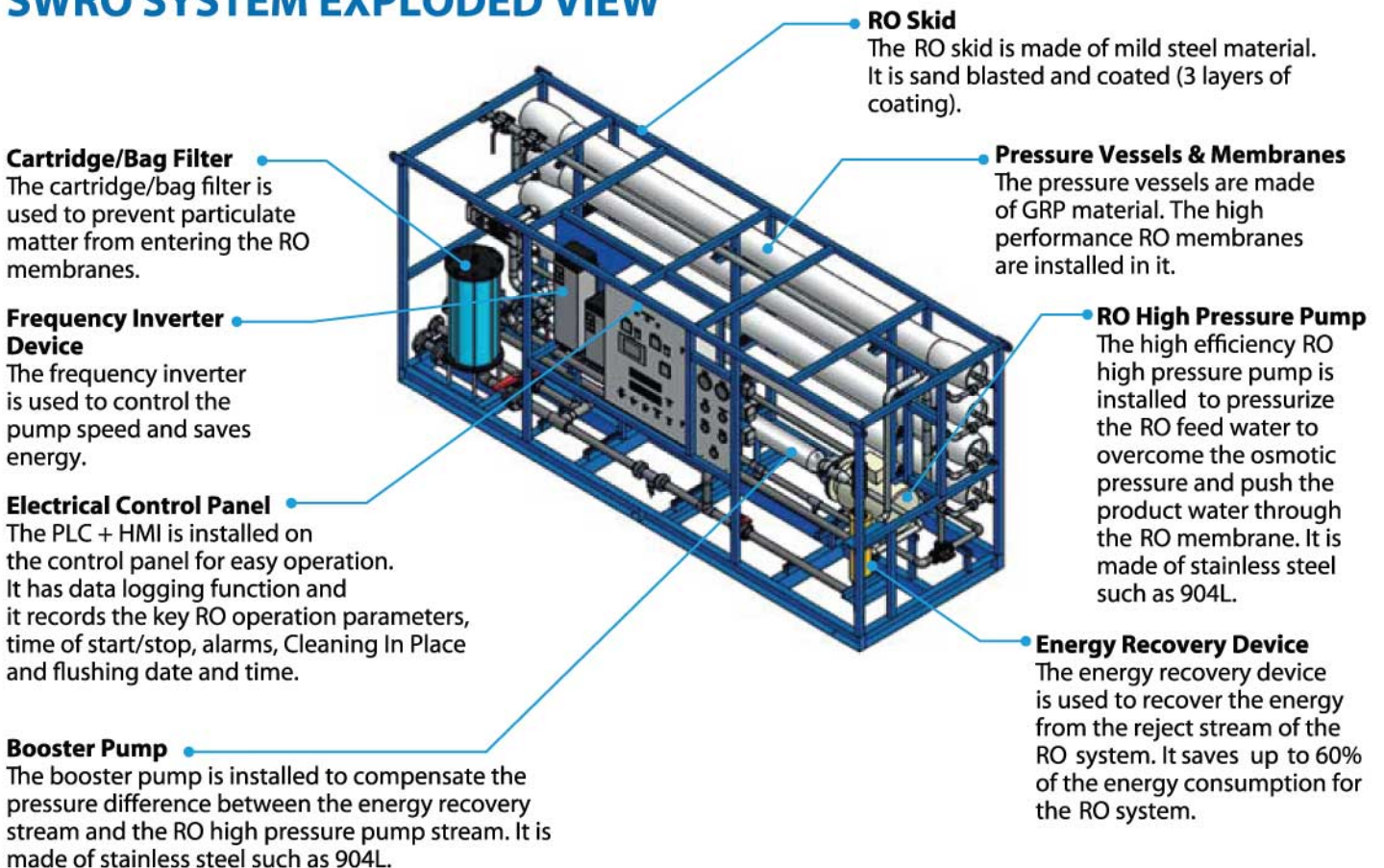


3,000,000 litres/day production capacity Seawater RO in Male' Republic of Maldives

FEATURES AND BENEFITS

1) Standardized systems with competitive price	6) Fast delivery with in house fabrication capability
2) Energy and cost efficient	7) Minimum site works required
3) High quality equipment and materials	8) High quality product water
4) Easy process control and monitoring	9) Designed for ease of shipping
5) Excellent proven track records	10) High reliability with excellent service support

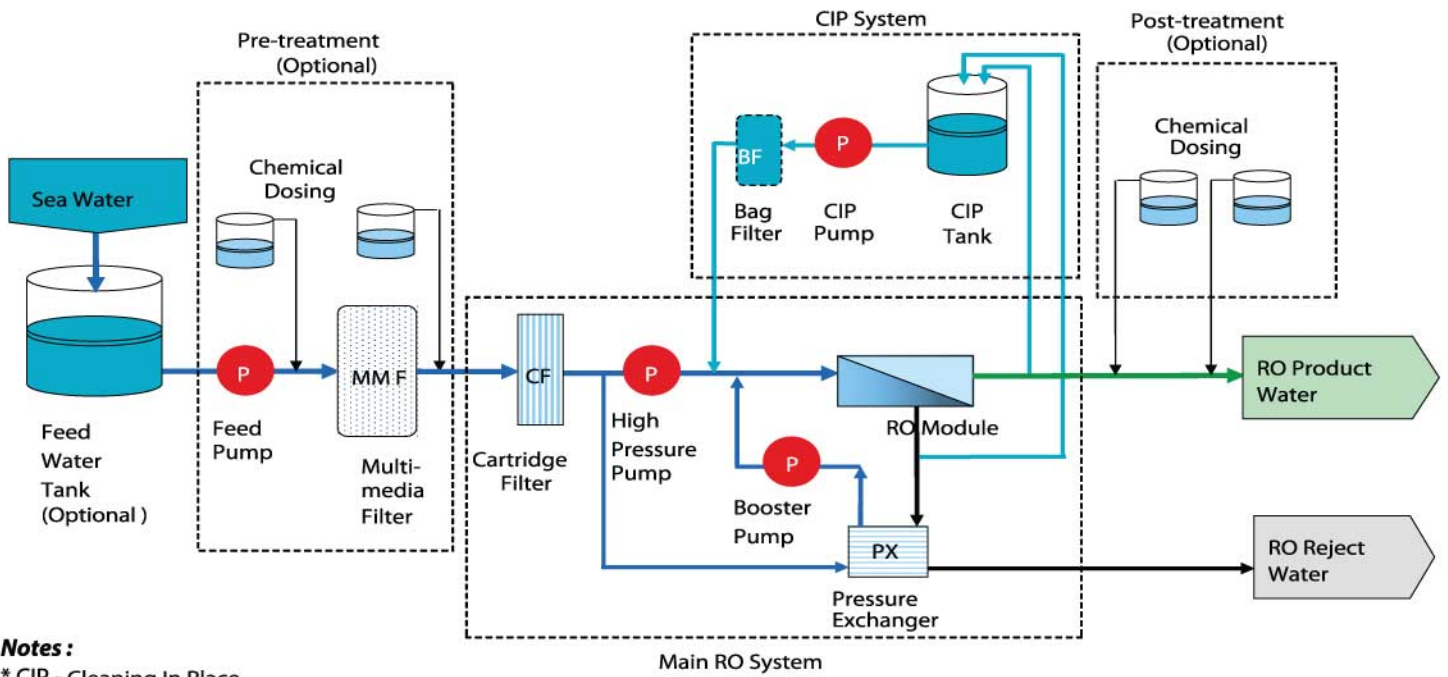
SWRO SYSTEM EXPLODED VIEW



Notes:

* PLC - Programmable Logic Controller HMI - Human Machine Interface GRP - Glass-reinforced Plastic

GENERAL PROCESS FLOW DIAGRAM



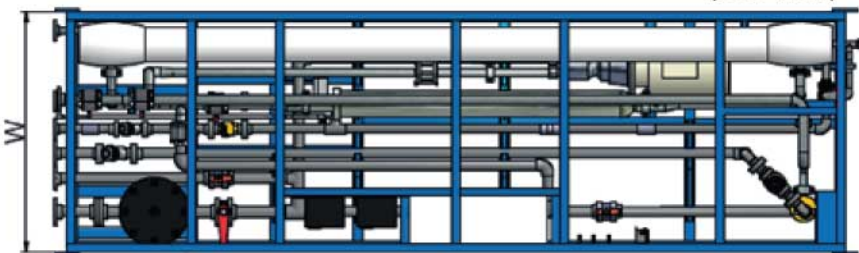
100,000 litres/day production capacity Seawater RO powered completely by solar power in Abu Dhabi, UAE



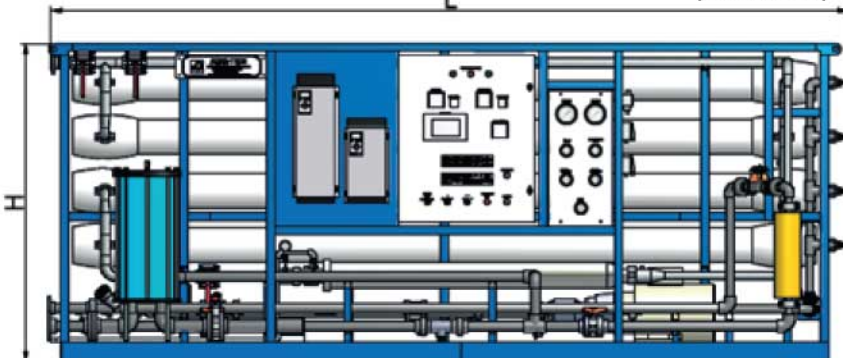
200,000 litres/day production capacity Seawater RO with PX Energy Recovery Device in Zanzibar, Tanzania

TYPICAL SWRO MAIN SKID LAYOUT

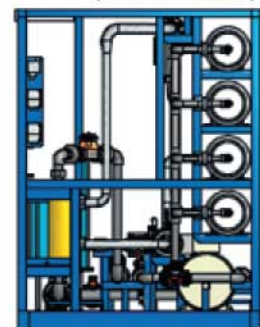
(Plan View)



(Front View)



(Section View)



TYPICAL SPECIFICATIONS OF SWRO DESALINATION SYSTEMS

Model SWRO-	Product Water Flow	Feed Water Flow	Main RO Skid [^] Dimensions (L x W x H)	Overall* Floor Space	Overall* Shipping Weight	Overall* Electrical Loading	Overall* Power Consumption
	(m ³ /day)	(m ³ /day)	(m x m x m)	(m ²)	(kg)	(kw)	(kwh/day)
200T-PX	200	500	5 x 1.5 x 2	36	5,500	31	660
300T-PX	300	750	7.2 x 1.5 x 2	42	8,500	58	1,180
500T-PX	500	1,250	7.9 x 1.5 x 2	80	13,000	78	1,660
800T-PX	800	2,000	7.9 x 1.8 x 2.2	100	17,000	115	2,650
1000T-PX	1,000	2,500	8.1 x 1.8 x 2.4	128	20,000	142	3,120
1200T-PX	1,200	3,000	8.1 x 2 x 2.4	150	24,000	154	3,650
1500T-PX	1,500	3,750	8.1 x 2.1 x 2.4	200	30,000	205	4,430
2000T-PX	2,000	5,000	8.1 x 2.1 x 2.4	230	38,000	277	5,790

Notes:

* Overall system includes main RO system which comes with Pre-treatment, Post-treatment and CIP systems.

[^] Multiple skids may be required for systems designed for 500m³/day or more.

TYPICAL WATER QUALITY OF SWRO DESALINATION SYSTEMS

Ion	Concentration (ppm)		Ion	Concentration (ppm)	
	Feed	Product		Feed	Product
Ca ²⁺	440	0.654	CO ₃ ²⁻	0.8	0.001
Mg ²⁺	1418	2.107	HCO ₃ ⁻	160	1.841
Na ⁺	11876.9	84.579	SO ₄ ²⁻	2976	4.767
K ⁺	420	3.737	Cl ⁻	21320	136.45
Ba ²⁺	0.055	0.0	F ⁻	1.5	0.019
Sr ²⁺	14	0.021	B	4.5	0.777
NH ₄ ⁺	0.1	0.0	SiO ₂	8.0	0.04
TDS	38640	235	pH	8	6.5-7.5

Design Criteria:

1) Recovery: 40% 2) Feed water temperature: 25°C

OPTIONS

- **Solar Powered System**
clean energy which reduces commercial electricity consumption
- **Double Pass RO System**
to meet stringent industrial requirements
- **Containerized RO System**
customized and built into brand new / used 20 foot / 40 foot containers that meet international quality standards



Solar powered system



Containerized RO system

The content described here provides general information for the products. Hitachi Aqua-Tech Engineering Pte Ltd reserves all rights to revise the design, specifications and equipment without prior notice.

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