

PRODUCT DATA SHEET

Sea Water Reverse Osmosis (SWRO) Desalination

water | wastewater | sewage



OVERVIEW

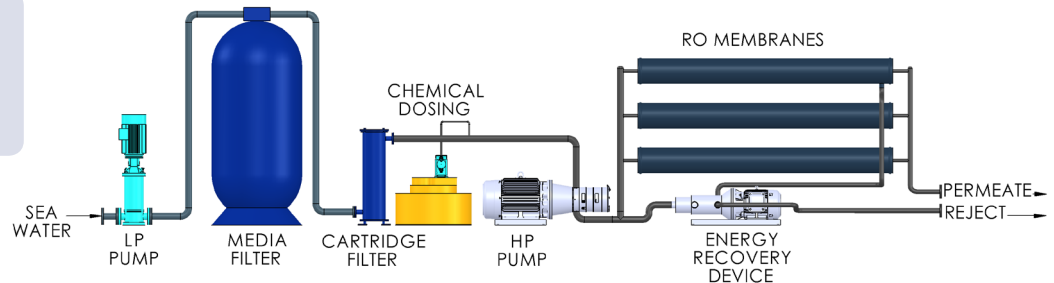
MAK Water's Sea Water Reverse Osmosis (SWRO) plants are designed to treat sea water, or high salinity ground water, with < 40,000 mg/L of dissolved solids (TDS) and < 30 mg/L of suspended solids (TSS), to achieve potable water quality.

The standard treatment process involves pre filtration (auto backwashing multimedia filters and cartridge filters), anti-scalant dosing to prevent membrane scaling, RO desalination and auto flushing and CIP systems for membrane cleaning. Additional pre-RO and post-RO treatment steps may be added as required to suit feed water conditions and/or treated water quality requirements.

The MAK SWRO plants are available as skid mounted or containerised systems.



ADDITIONAL FLOW RATES AND CUSTOMISED SOLUTIONS ARE AVAILABLE. JUST ASK US.



STANDARD SPECIFICATIONS

Parameter	Units	SWRO-50	SWRO-100	SWRO-150	SWRO-250	SWRO-500	SWRO-1000
Permeate Flow Rate	m ³ /day	50	100	150	250	500	1000
Permeate Recovery Rate	%	40 (typical)					
Permeate TDS	mg/L	<500 (typical)					
Raw Water TDS	mg/L	<40,000					
Raw Water TSS	mg/L	<30					
Raw Water Temperature	°C	15 ~ 35					
Ambient Design Temperature	°C	5 ~ 45 (-15 ~ 50 for insulated containerized system)					
Feed Water Inlet Pressure	kPa	>15 (flooded suction)					
Permeate Discharge Pressure	kPa	~40 (higher discharge pressures available on request)					
Brine Discharge Pressure	kPa	~40 (higher discharge pressures available on request)					
Power Supply	-	AC 380~450 V, 3 Phase, 50/60 Hz					
Power Consumption	Standard	20	25	35.5	52.5	105	190
	High Efficiency	-	-	26	43	71	142
No. Containers (Optional)	-	1 x 20'	1 x 20'	1 x 40'	1 x 40'	2 x 40'	2 x 40'

STANDARD INCLUSIONS + OPTIONS

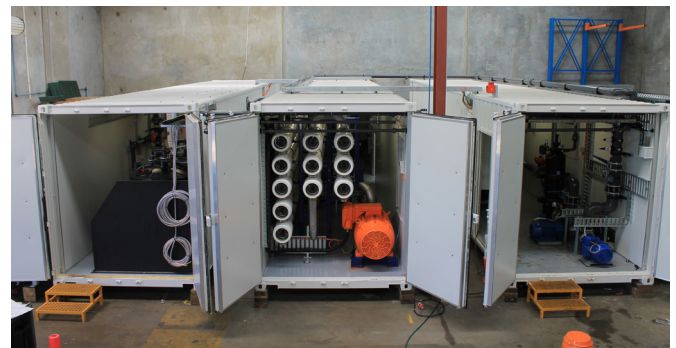
✓ = Standard Supply, o = Optional Supply, - = Not Applicable

Equipment	SWRO-50	SWRO-100	SWRO-150	SWRO-250	SWRO-500	SWRO-1000
Skid Mounted Plant & Equipment	✓	✓	✓	✓	✓	✓
Low Pressure Feed Pump	✓	✓	✓	✓	✓	✓
High Pressure RO Pump (c/w ERD)	Std Efficiency	✓	✓	✓	✓	✓
	High Efficiency	-	-	o	o	o
Pre-filtration	Multimedia	o	✓	✓	✓	o
	Ultra Filtration	o	o	o	o	✓
	Cartridge Filters	✓	✓	✓	✓	✓
Anti Scalant Dosing System	✓	✓	✓	✓	✓	✓
Membrane CIP & Auto Flush System	✓	✓	✓	✓	✓	✓
PLC Control System with HMI	✓	✓	✓	✓	✓	✓
Containerised system, c/w A/C & Lights	o	o	o	o	o	o
Container Insulation (walls & ceiling)	o	o	o	o	o	o
Container non-slip floor coverings	o	o	o	o	o	o
Container Side Access Door	o	o	✓	✓	✓	✓
Additional Pre-RO Treatment	o	o	o	o	o	o
Additional Post-RO Treatment	o	o	o	o	o	o
Premium Instrumentation Package	o	o	o	o	✓	✓
Permeate Distribution Pump Set	o	o	o	o	o	o

Instrumentation	Standard Package	Premium Package
Pressure Gauges	✓	✓
Pressure Transmitters (4-20 mA)	-	✓
HP RO Pump Inlet Low Pressure Switch	✓	✓
Flow Gauges (Rotameters)	✓	-
Flow Transmitters (4-20 mA)	-	✓
Conductivity Transmitter (4-20 mA)	✓	✓
Float Switches (Feed/Permeate, Chemical Dosing & CIP Tanks)	✓	✓
Remote Monitoring & Control Capabilities	-	✓

MODEL SELECTION

- 0050** 50 m³/day - permeate flow
- 0100** 100 m³/day - permeate flow
- 0150** 150 m³/day - permeate flow
- 0250** 250 m³/day - permeate flow
- 0500** 500 m³/day - permeate flow
- 1000** 1000 m³/day - permeate flow
- XXXX** Custom permeate flow
- XX** Skid mounted
- CX** Containerised - standard
- CF** Containerised - with floor coatings
- CP** Containerised - with floor coatings & insulation
- X** Pre RO treatment - standard
- C** Pre RO treatment - custom
- X** Post RO treatment - standard
- C** Post RO treatment - custom
- X** Standard instrument package
- P** Premium instrument package, c/w remote monitoring
- C** Custom instrument package
- F** Standard efficiency RO pump
- D** High efficiency RO pump
- Permeate distribution pump set**
- X** Without
- C** Custom
- X** Specifications - standard
- C** Specifications - custom



Disclaimer: MAK Water is continuously updating and improving its products and services, so please contact us for more detailed information or to confirm specifications. MAK Water takes no responsibility for any errors resulting from the use of information contained within this document.

NEED A QUOTE?

COMPLETE THIS TABLE AND EMAIL TO...

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SWRO _ _ _ _ _

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