

EfloSWRO & EfloBWRO

Reverse Osmosis

EfloRO Benefits

Skid mounted or ISO Container Manufactured Systems.

Automatic operation and Clean-in-Place

Brackish Water and Sea Water Reverse Osmosis

Stainless Steel High Pressure pipes and valves

Thin Film Composite Membranes

Max Pressure 82 bar for SWRO

Max Inlet TDS 45,000 ppm

Average Salt Rejection 98%

pH Range 3 - 10

Max Temperature 45 deg C

General Description

Reverse Osmosis removal of minerals and total dissolved solids from **Sea Water (SWRO)** and **Brackish Water (BWRO)**. Also, for polishing of low grade water to potable quality. High quality reverse osmosis skid mounted plants designed and constructed to meet all demands for ultra pure water. Five different families of the RO units are introduced as standard models of RO systems with production capacities up to 20,000 cubic metres per day:

TWRO: Tap Water Reverse Osmosis Units with raw water TDS up-to 3,000 ppm

BWRO: Brackish Water Reverse Osmosis Units with raw water TDS up-to 5,000 ppm

HBWRO: Highly Brackish Water Reverse Osmosis Units with raw water TDS up-to 15,000 ppm

SWRO: Sea Water Reverse Osmosis Units with raw water TDS up-to 45,000 ppm

SWRODP: Double Pass Sea Water Reverse Osmosis Units with raw water TDS up-to 70,000 ppm

FRO: Low Fouling Reverse Osmosis for effluent polishing for reuse

Eflo - About Us

Eflo International Ltd, UK is an OEM company offering proven and robust technologies for advanced wastewater treatment systems for both domestic and industrial waste water.

Eflo also designs and manufactures reverse osmosis plants for sea water and brackish water desalination delivering these as ready to run packaged plants in either skid for or containerised.

Eflo has designed & installed treatment plants in Europe, the Middle East, Africa, Caribbean the Indian Ocean islands over a period of more than 40 years and can delivery globally through local agents who provide product support.

Eflo offers a range of other innovative water treatment products including oily water separation and DAF processes as well as water treatment chemicals

Please contact us so we can help you with your water treatment requirements.



EfloRO Skid Mounted Sea Water Reverse Osmosis (SWRO) plant with a production capacity of 150 cubic metres per day.

This skid can be shipped globally either export packed or the entire plant can be manufactured and assembled to sit within an ISO shipping container for immediate installation on site.

EFLO Water Treatment Products :

- EfloSAF** Submerged Aerated Filter
- EfloMBR** Membrane Bio-Reactor
- EfloDAF** Dissolved Air Flootation
- EfloGREY** Grey Water Re-Cycling
- EfloRO** Sea & Brackish Water Reverse Osmosis
- EfloSBR** Sequential Batch Reactor
- EfloCT** Extended Aeration
- EfloSEP** Oily Water Separator
- EfloCHEM** Water Treatment Chemicals
- EfloSLUDGE-DRY** Sludge Dewatering

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Standard Features

- Thin film membranes.
- Stainless steel centrifugal, multi-stage pump and NAB plunger pumps.
- Fibreglass membrane housings.
- Antiscalant, pre and post chlorination, de-chlorination and pH correction dosing systems.
- 5 micron pre sediment multi cartridge.
- Inlet water shut off valve.
- Low pressure pipes and valves 16 Bar uPVC.
- Stainless steel high pressure pipes and valves.
- Reject regulation valve.
- Permeate and reject float type flow meters.
- Permeate water TDS monitor

EfloRO containerised Sea Water Reverse Osmosis package plant with a production capacity of 100 cubic metres per day



Operating Conditions	Eflo TWRO	Eflo BWRO	Eflo HBWRO	Eflo SWRO
Maximum Pressure	15 Bar	20 Bar	30 Bar	82 Bar
Maximum Temperature	45 Deg C	45 Deg C	45 Deg C	45 Deg C
pH Range	3 - 10	3 - 10	3 - 10	3 - 10
Maximum Inlet TDS	3,000 ppm	7,000 ppm	15,000	45,000
Minimum Salt Rejection	96%	96%	96%	96%
Average Salt Rejection	98%	98%	98%	98%
Feed Water Chlorine Content	Nil	Nil	Nil	Nil
Maximum Inlet Water SDI	3	3	3	3
Maximum Feed Water Turbidity	1 NTU	1 NTU	1 NTU	1 NTU



Chemical dosing system. Diaphragm doing pumps for pre and post chlorination, de-chlorination and pH adjustment.

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Eflo RO Sea Water Models	Production Capacity Cubic Metres per Day	Skid Foot Print	Installed Power 50Hz
Eflo SWRO 12	12	4.0m x 1.5m	9 kW
Eflo SWRO 17	17	4.0m x 1.5m	9 kW
Eflo SWRO 25	25	4.0m x 1.5m	10 kW
Eflo SWRO 34	34	4.5m x 1.5m	17 kW
Eflo SWRO 67	67	4.7m x 1.3m	27 kW
Eflo SWRO 100	100	5.0m x 1.5m	35 kW
Eflo SWRO 150	150	5.0m x 1.5m	50 kW
Eflo SWRO 200	200	5.5m x 1.6m	67 kW
Eflo SWRO 250	250	6.5m x 1.6m	80 kW
Eflo SWRO 300	300	6.5m x 1.6m	81 kW
Eflo SWRO 350	350	6.5m x 1.8m	83 kW
Eflo SWRO 400	400	7.0m x 2.0m	98 kW
Eflo SWRO 450	450	7.0m x 2.0m	118 kW

Chart showing the various models for the Eflo SWRO packages. The production capacity is dependent upon the sea water inlet TDS. The Eflo SWRO models shown here are based on an inlet TDS of 45,000 ppm which would be considered high. The inlet TDS will also effect the absorbed power of the process motors. This chart is indicative and an accurate production capacity for each sized plant along with the installed power and absorbed power will be provided if a sea water analysis is provided.



Typically arrangement of membrane housings for a containerised Eflo RO with a production capacity of 450 cubic metres per day. This particular plant include spare membranes which could be brought into use by the operator.

When Eflo build their RO systems inside a container, the container is typically a single use model which is undergoes a full refurbishment and internal build including grp flooring, full wall and roof lining, utility services including lighting, sockets, water and if required air conditioning. A separate side opening door is provided for easy access.



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