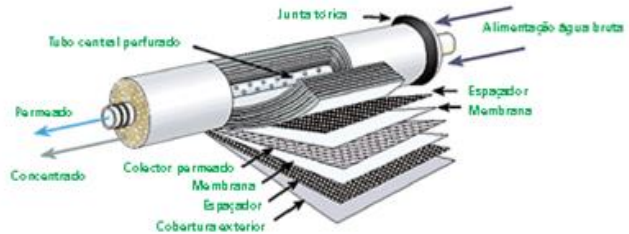




Dessalination

Equipment Specs Sheet Sea Water ECO1000

The separation of salts in a liquid / liquid operation through the use of membranes is an operation that already has 40 years of experience and proven operation in the market. It progressively gains its preference among users over demineralization systems and other older technologies.



Its greatest benefits are continuous, uninterrupted production of constant quality.

These days, in order to meet the cost and quality requirements of end customers, these are your main competitive advantages.

Membrane separation has 4 main types of products:

- Microfiltration
- Ultrafiltration
- Nanofiltration
- Reverse Osmosis

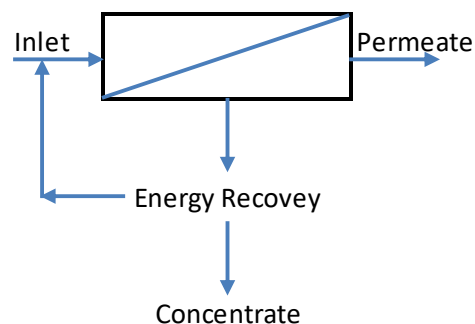
Nível de filtração (μ)	0,001	0,01	0,1	1	10	100	1000
Tipo de filtração utilizada	OSMOSE INVERSA (MEMBRANAS)		ULTRAFILTRAÇÃO	FILTRAÇÃO DE PARTÍCULAS			
			NANOFILTRAÇÃO	MICROFILTRAÇÃO			

This division is directly related to the membrane porosity and therefore the particle size that allows it to pass through it (see figure). Depending on your application, the membrane and the type of equipment to be used will be chosen.

The use of seawater unit has input conductivity of 55 000 μS/cm².

REVERSE OSMOSIS OPERATION

Permeate Flow	10,00 m ³ /h
Inlet Flow	22,20 m ³ /h
Concentrate Flow Rate	12,20 m ³ /h
Recovery	45 %
Project Temperature	18 °C
Project pH	5,5 - 8,5
Minimum Inlet Pressure	3 bar
Operating Pressure	52,1 bar





Dessalination

Equipment Specs Sheet Sea Water ECO1000

UNIT COMPONENTS

Equipment Grouping Skid

Material	Mild Steel
Length	6,50 mt
Width	0,70 mt
Height	1,65 mt

Membrane Protection Microfiltration

No. of Housings	2 un
Housing Filters	1 un
Filter Porosity	5 + 1 μ m
Filter Size	40 "

Pressurization Pump

Brand	Efaflu or Equivalent
Motor power	29 kw
Amount	1

Pressure Tubes

Brand	WaveCyber
Model	W1000E-4-5
Material	FRP
Amount	3

Reverse Osmosis Membranes

Membranes	15
Manufacturer	Hydranautics / Vontron

<u>System Arrangement</u>	3
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ASSEMBLY AND PREPARATION INDICATIONS

Input	DN63
Permeated	DN50
Focused	DN63
Motor Power	400 VAC, trifásico, 50Hz
Power Controller	230 V, monofásico, 50Hz
Estimated weight	400 kg
Length	6,50 mt
Width	0,70 mt
Height	1,65 mt



Dessalination

Equipment Specs Sheet Sea Water ECO1000

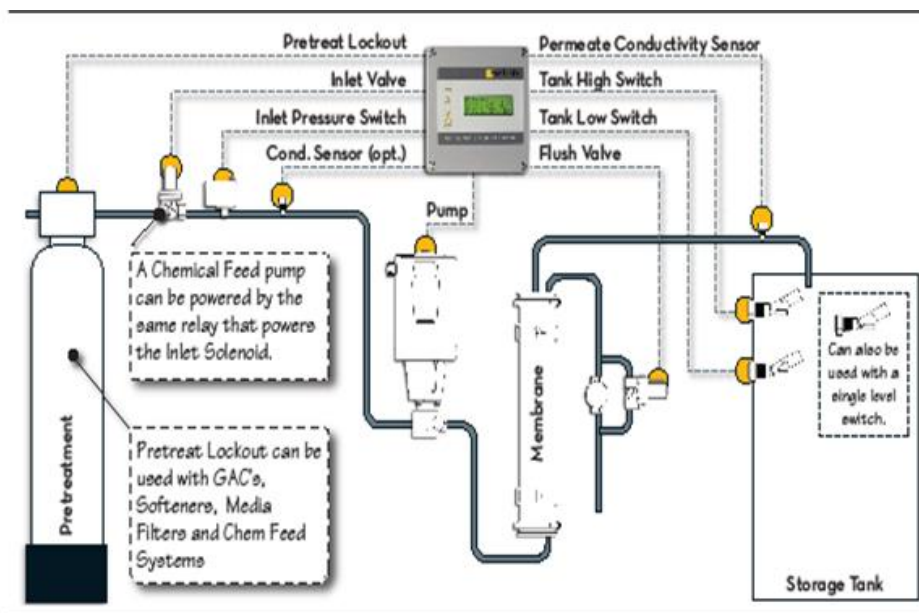
ALARMS AND UNIT MANAGEMENT

Controller
Conductivity Meter
Pressure gauges
Low pressure: System responds to low pressure according to setpoint
Production failed
Permeability Conductivity Alarm
Measurement out of parameters / Short circuit probe

UNIT CHARACTERISTICS

Built-in skid microfiltration
Conductivity probe in permeate water
Skid mounted pressure pump
Pressure gauges
Automatic flush process
Electrical board included
Interconnection with prefiltration systems
Permeate tank level connection (min and max)
Inlet pressure switch
Inlet valve
Flush Valve Control

OPERATION SCHEME



Note: Controller may not visually match schema