



# Reverse Osmosis

## Equipment Technical Data Sheet Brackish Water RO9000BW

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 in users over demineralization systems and other older technologies.



It presents the greatest benefits to continuous production, without interruptions and constant quality.

Nowadays, in order to meet the cost and quality requirements of final customers, these are their main competitive advantages.

The separation by membranes presents 4 main types of products:

- Microfiltration
- Ultrafiltration
- Nanofiltration
- Reverse Osmosis

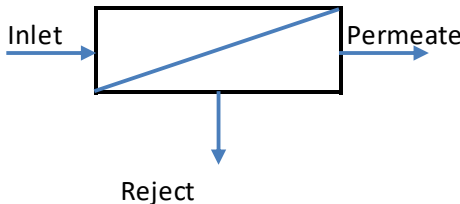
Nível de filtração ( μ )	0,001	0,01	0,1	1	10	100	1000
Tipo de filtração utilizada	OSMOSE INVERSA (MEMBRANAS)		ULTRAFILTRAÇÃO	FILTRAÇÃO DE PARTÍCULAS			
		NANOFILTRAÇÃO	MICROFILTRAÇÃO				

This division is directly related to the porosity of the membrane and hence the size of the particles it allows to pass through it (see figure). According to its application, the membrane and the type of equipment to be used will be chosen.

The use of brackish water unit limits the input conductivity to 5,000 μS / cm2.

### WORKING DATA

<b>Permeate</b>	94,00 m <sup>3</sup> /h
<b>Raw water</b>	125,33 m <sup>3</sup> /h
<b>Rejected</b>	31,33 m <sup>3</sup> /h
<b>Conversion system</b>	66-74 %
<b>Project Temperature</b>	18 °C
<b>Project pH</b>	5,5 - 8,5
<b>Minimum inlet pressure</b>	3 bar
<b>Operating pressure</b>	9 bar
<b>Concentrate recirculation</b>	10,00 m <sup>3</sup> /h





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### UNIT COMPONENTS

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#### Equipment Skid

Material	Steel
Length	7,00 mt
Width	2,00 mt
Height	2,00 mt

#### Membrane Protection Microfiltration

N. of Housings	5 un
Filters per housing	22 un
Filter porosity	1 $\mu$ m
Filter model	CFH 22x40"

#### Pressure pump

Brand	Efaflu
Motor Power	75 kw
Quantity	1

#### Pressure vessels

Brand	Parker/MWG
Model	H8E5B5
Material	FRP
Quantity	19

#### Reverse Osmosis Membranes

N. of Membranes	95
Manufacturer	Hydranautics ou similar

#### System steps

9-6-4

### INSTALLATION DATA

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Inlet	D110
Permeate	D110
Reject	D110
Power	400 VAC, trifásico, 50Hz
Controller power	230 V, monofásico, 50Hz
Estimated weight	600 kg
Length	7,00 mt
Width	2,00 mt
Height	2,00 mt



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### CONTROLLER UNIT

Controller  
Conductivity Measure  
Pressure gauges  
Low pressure  
Production failure  
High conductivity permeate

### CARACTERISTICAS DA UNIDADE

Microfiltration on skid  
Conductivity measure  
High pressure pump on skid  
Pressure gauges  
Automatic flush  
Electrical cabinet on skid  
All interconnecting pipe  
Tank level connectivity (Mín / máx)  
Inlet Pressure switch  
Inlet valve  
Flush valve controller

### WORKING PRINCIPLE

