# ROfine
## Reverse Osmosis

***HIGHLY COMPETITIVE***
***&***
***RELIABLE TECHNOLOGY***

## Advantages e Applications

- Removal of dissolved minerals, metals and other particles benefits systems integrity. The water is free of contaminants or particles that can create corrosion, fouling, cause water to smell unpleasant, taste poorly and take on unusual colors.
- Reverse Osmosis systems are friendly to the environment, as they do not produce or use any harmful chemicals during the process.
- Reverse Osmosis systems are compact, and space requirements are less than with other similar processes.
- Energy efficient and ideally suited for separation and recovery applications. Reverse Osmosis performs a separation without a phase change or thermal energy use.



# *Welcome to Enkrott's World!*

**Water** is essential to life. However, the world's water needs are increasing. These rates cause a pressure increase in living conditions, especially in poor countries. It is estimated that two thirds of the world population could live in the future in conditions of stress caused by low water availability...
It is necessary that we all preserve the common element which is water for future generations, using the best practices and techniques of conservation, reuse and recycling.
In Enkrott we know well what that is. We develop and apply engineering and products solutions for over 50 years.

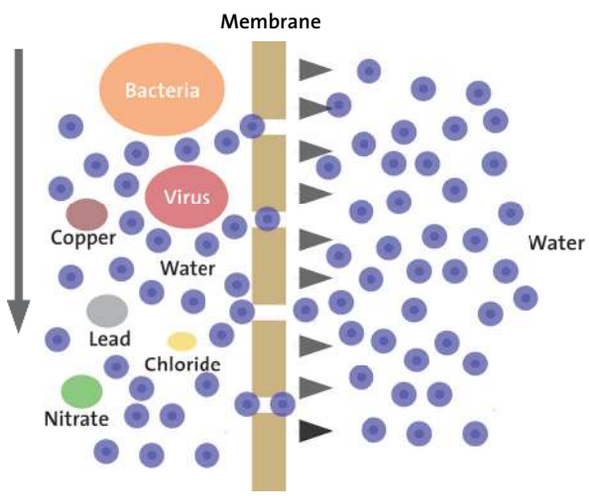
We have given users the ability to utilize various sources of less noble water to feed their processes, treat it with techniques that minimize environmental impact and supply people with an appropriate water for their health.
Water is everything for us! It is our raw material and our purpose. The impacts of water in various industrial processes, the equipment that use water in their usual operations and the well-being of populations are the goals of our knowledge.


## Reverse Osmosis in Water Treatment

Reverse Osmosis (RO) is a water purification technology that uses a semipermeable membrane. In RO, an applied pressure is used to overcome osmotic pressure retaining the particles and microorganisms on the pressurized side of the membrane and allowing the passage of the pure water molecules to the other side.

Reverse Osmosis processes have been widely used for separation and concentration (recovery) of solutes in many fields.

Reverse osmosis can remove many types of molecules and ions from solutions and is used in both industrial processes and production of potable water



## Reverse Osmosis for Brackish Water (BW)

| Model | Permeate (l/h) | Number of 8" membranes | Connection load (kW) | Dimensions (mm) H x W x D |
|---|---|---|---|---|
| BW3 | 3.000 | 3 | 5,5 | 1800 x 4000 x 1000 |
| BW4 | 4.000 | 4 | 7,5 | 1800 x 3000 x 1000 |
| BW6 | 6.000 | 6 | 7,5 | 1800 x 4000 x 1000 |
| BW8 | 8.000 | 8 | 7,5 | 1800 x 4000 x 1000 |
| BW9 | 9.000 | 9 | 11 | 1800 x 4000 x 1000 |
| BW10 | 10.000 | 10 | 15 | 1800 x 6000 x 1000 |
| BW12 | 12.000 | 12 | 15 | 1800 x 5000 x 1000 |
| BW15 | 15.000 | 15 | 18,5 | 1800 x 5000 x 1000 |
| BW20 | 20.000 | 24 | 18,5 | 1800 x 6000 x 1200 |
| BW25 | 25.000 | 25 | 30 | 1800 x 6000 x 1200* |
| BW30 | 30.000 | 30 | 30 | 1800 x 6000 x 1200* |
| BW40 | 40.000 | 42 | 37 | 1800 x 7000 x 1200* |
| BW50 | 50.000 | 54 | 45 | 1800 x 7000 x 1200* |

* Reference values and dependent on the project raw water salinity

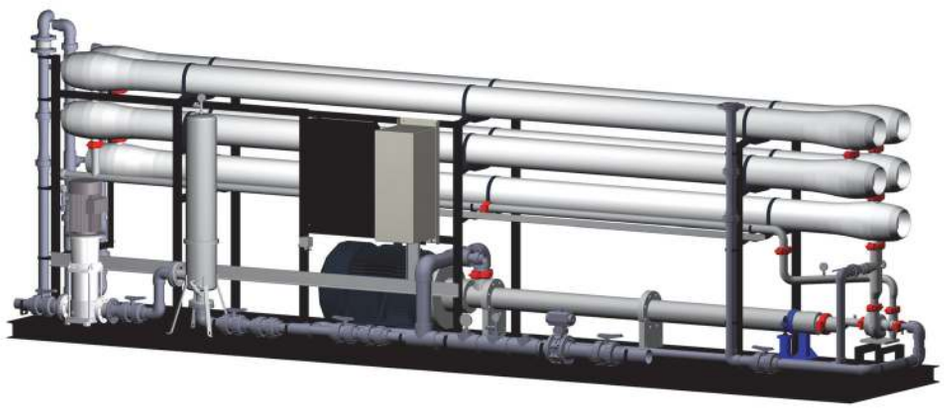
# Reverse Osmosis for Brackish Water (BW)

## Reference Values

- Average flux rate of 27 l/m²/h
- Recovery rate of 65-75%

## Admissible raw water

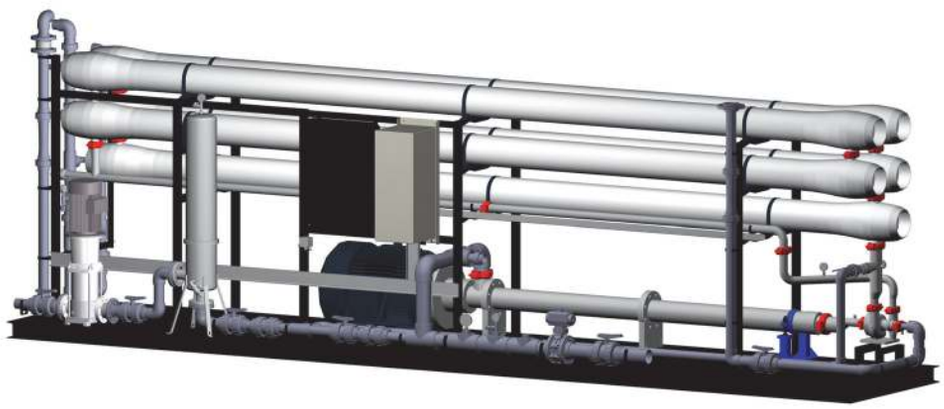
- Salinity max. 5.000 ppm
- pH between 3-10
- Silt index < 3
- Free chlorine < 0.1 ppm
- Fe + Mn < 0.2 ppm
- Total hardness < 0.1 °dH
- Bacterial count < 100 CFU/ml
- Turbidity < 0.5 NTU
- COD < 5 ppm as O2



## Reverse Osmosis for Sea Water (SW)

| Model | Permeate * (l/h) | Number of 8" membranes | Connection load * (kW) | Dimensions (mm) * H x W x D |
|---|---|---|---|---|
| SW3 | 2.500 | 3 | 20 (Without recovery) | 2000 x 4500 x 1200 |
| SW4 | 3.000 | 4 | 30 (Without recovery) | 2000 x 5500 x 1200 |
| SW6 | 5.000 | 6 | 25 | 2000 x 4800 x 1200 |
| SW8 | 6.600 | 8 | 32 | 2000 x 5200 x 1400 |
| SW10 | 8.300 | 10 | 35 | 2000 x 6300 x 1400 |
| SW12 | 10.000 | 12 | 45 | 2000 x 5200 x 1400 |
| SW15 | 12.500 | 15 | 55 | 2000 x 6300 x 1400 |
| SW20 | 16.700 | 20 | 65 | 2000 x 6300 x 1400 |
| SW24 | 20.000 | 24 | 70 | 2000 x 8000 x 1400 |
| SW30 | 25.000 | 30 | 110 | 2000 x 8000 x 1400 |
| SW36 | 30.000 | 36 | 115 | 2000 x 8000 x 1400 |
| SW42 | 35.000 | 42 | 140 | 2600 x 8000 x 2400 |
| SW48 | 40.000 | 48 | 160 | 2600 x 8000 x 2800 |
| SW72 | 50.000 | 72 | 170 | 2600 x 8000 x 3400 |

* Reference values and dependent on the project raw water salinity



# Reverse Osmosis for Sea Water (SW)

## Reference Values

- Average flux rate depending on the raw water
- Recovery rate of aprox.40%

## Admissible raw water

- Salinity max. 38.000 ppm
- pH between 3-10
- Silt index < 3
- Free chlorine < 0.1 ppm
- Fe + Mn < 0.2 ppm
- Total hardness < 0.1 °dH
- Bacterial count < 100 CFU/ml
- Turbidity < 0.5 NTU
- COD < 5 ppm as O2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