

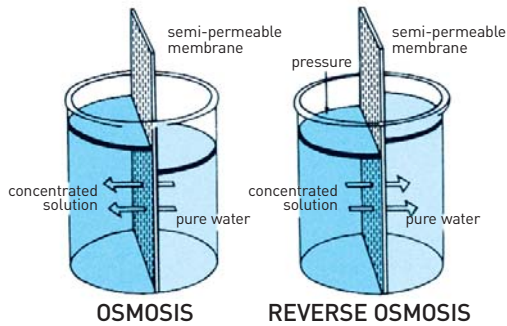
REVERSE OSMOSIS

Culligan®

The answer to your needs for
everyday and industrial water



CULLIGAN: WORLD LEADER IN THE WATER TREATMENT



This technology makes use of the ability of certain **semi-permeable membranes** to separate water from the substances dissolved in it. By applying a certain pressure, the water is forced through the membrane: **the pure water (permeate) will be separated from the water containing the salts (reject).**

The osmotic membrane, which reaches the highest practicable level of filtration, acts as a barrier to salts and inorganic matter, and also to organic substances with molecular weight higher than 100: it therefore provides an excellent defense against micro-pollutants, pesticides, pyrogenics, viruses and bacteria that may also be found in the water.

Reverse Osmosis is a physical type of procedure that does not require the use of any chemical regenerants. Reverse Osmosis technology has been rapidly winning acclaim, and its use has grown quickly owing to its versatility, its excellent performance and its simple application. In a period of a few years the types of membranes available have increased. They have been designed for increasingly specific applications. Culligan was among the first companies worldwide to use Reverse Osmosis for a wide range of products.

In the following pages we will present some of the more important ones, dividing them by area of application. The list is not exhaustive: in fact a feature of the Reverse Osmosis technology is its extreme flexibility, which makes it possible to solve a problem using the standard products available.

The first, essential use of water is for drinking. Water is used as a beverage, but there is no food in which water is absent, either as an ingredient or as a preparation liquid. There is no beverage or liquor in which water is not the fundamental ingredient. Reverse Osmosis plays a role in the drinking water sector, and our indicators suggest that this trend is likely to become stronger in the future.

In this brochure you can see a few Culligan plants for the conditioning of brackish or sea water; single-user systems or larger plants to desalinate water for coastal communities, villages and entire cities.

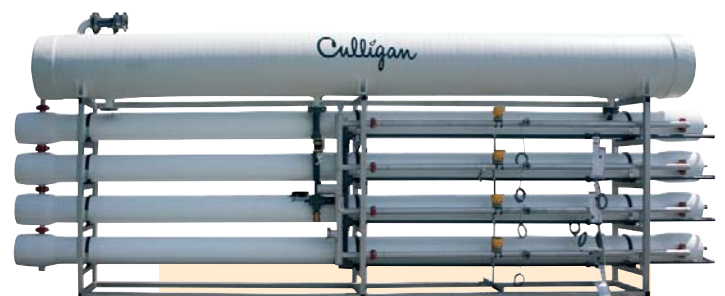
Culligan also supplies container plants, excellent for solving temporary-needs problems or emergency situations.

SW

Industrial desalinators, designed to offer safe operation, high performance and easy maintenance.

Manufacturing materials, especially the ones in contact with water, are corrosion resistant (AISI 316 Stainless Steel, PVC or Polyethylene) and food-graded.

These units are suitable to treat water with salinity up to 45000 ppm.



SW Series equipment, for the desalination of sea water





MFP

An “evergreen” well-known for its reliability and robustness. It is available in the basic version MFP3 Series with electro-mechanic control panel, and in the new MFP4 Series, featuring an electronic control panel, with conductivity meters and flow meters. All functions are displayed on an easy to read display.



MFP3, MFP4 and R.O.² Series are also available in the Medical Version (Medical Device No. 0373)

There are few industrial activities that can do without a specific type of treated water. From boiler water, which must meet precise chemico-physical standards, to process water, which must meet precise characteristics required by the production process.

In this sector too the Reverse Osmosis technology has assumed a role of pre-eminence, owing to its flexibility, economy, and the simplicity of its use.

IW E – IW L

Industrial desalinators, designed to provide safe operation with high performance and easy maintenance.

They are manufactured from materials that are corrosion-resistant, food grade material (AISI 316 Stainless Steel, PVC or Polyethylene). These units are suitable to treat water with a low salinity up to 3000 ppm. Initial purchase price and ongoing maintenance costs are competitive, thanks to low-pressure membranes. The versatility and utilisation of standard components ensures the units are easy to manufacture, making the IW E and IW L simple, safe equipment.

- IW E - complete with pressure monitoring control
- IW L - features an electronic control board, displaying flow rates and conductivity. This board can also control pre-treatment units.

AVAILABLE OPTIONALS:

control panel, flushing kit, pre-filters.

R.O.²

Double Reverse Osmosis in series is the top model in this range, combining the production of excellent water with great versatility.



IW E - IW L Series equipment, for industrial and drinking water applications



TECHNICAL SPECIFICATIONS

MODEL	INSTALLED POWER kW	PIPE FITTINGS		NOMINAL FLOW RATE * l/h	DIMENSIONS width x depth x height ** mm	SHIPPING WEIGHT kg
		in (feeding) inches	out (product) inches			
DESALINATORS FOR SEA WATER						
SW 300	5.5	1	1/2	300	CHANGES ACCORDING TO CONFIGURATION	
SW 600	5.5	1	1/2	600		
SW 900	15	1½	3/4	900		
SW 1500	18.5	1½	1	1500		
SW 2000	18.5	1½	1	2000		
SW 3000	37	2	1½	3000		
SW 4000	45	2½	1½	4000		
SW 6000	55	2½	1½	6000		
DOUBLE REVERSE OSMOSIS DESALINATORS IN SERIES						
R.O. ² 400	1.5 + 1.5	1	1/2	500	1000 x 750 x 1700	220
R.O. ² 800	2.2 + 2.2	1	1/2	1000	1000 x 750 x 1700	260
R.O. ² 1200	3 + 3	1	1/2	1500	1000 x 750 x 1700	310
R.O. ² 1600	4 + 4	1	1/2	2000	1000 x 750 x 1700	350
DESALINATORS FOR BRACKISH WATERS						
MFP 400	1.5	1	1/2	500	500 x 660 x 1550	115
MFP 800	1.5	1	1/2	1000	500 x 660 x 1550	140
MFP 1200	2.2	1	1/2	1500	500 x 660 x 1550	170
MFP 1600	2.2	1	1/2	2000	500 x 660 x 1550	190
MFP 2200	4	1	3/4	2500	500 x 660 x 1800	220
MFP 2800	4	1	3/4	3000	500 x 660 x 1800	250
MFP 3300	4	1	3/4	3500	500 x 660 x 1800	280
IWE 5	7.5	2	1½	5000	3800 x 1200 x 1600	650
IWE 8	7.5	2	2	8000	3800 x 1200 x 1600	710
IWE 12	11	2	2	12000	3800 x 1200 x 1600	950
IWE 16	11	2	2	16000	5500 x 1200 x 2000	1280
IWE 20	15	3	2	20000	5500 x 1200 x 2000	1370
IWE 23	15	3	2	23000	7200 x 1200 x 2000	1600
IWE 26	18.5	3	2½	26000	7200 x 1200 x 2000	1850
IWE 30	22	3	2½	30000	7200 x 1200 x 2000	2100
IWL 5	7.5	2	1½	5000	3800 x 1200 x 1600	650
IWL 8	7.5	2	2	8000	3800 x 1200 x 1600	710
IWL 12	11	2	2	12000	3800 x 1200 x 1600	950
IWL 16	11	2	2	16000	5500 x 1200 x 2000	1280
IWL 20	15	3	2	20000	5500 x 1200 x 2000	1370
IWL 23	15	3	2	23000	7200 x 1200 x 2000	1600
IWL 26	18.5	3	2½	26000	7200 x 1200 x 2000	1850
IWL 30	22	3	2½	30000	7200 x 1200 x 2000	2100

* Average flow rate based on the following hypothetical data (except for sea water desalinators): temperature 20 °C; TDS ≤ 1500 ppm as NaCl; recovery ratio 75%.


** Dimensions are approximate and may change.

Inlet water pressure: > 2 bar.

POWER SUPPLY
380 V – 50 Hz three-phase. The installed power may vary depending on the specific features of the project.

NOTES

Series SW, R.O.², IW E and IW L desalinators are delivered without the electrical control panel. Series MFP desalinators are equipped with electrical control panel.

 Designed and manufactured according to CE Directives in force

Quality Systems certified according to UNI ISO:9001