CANADIAN CLEAR

REVERSE OSMOSIS MEMBRANE ELEMENTS

Canadian Clear

Nurturing Nature Since 1972

CROSS-LINKED POLYAMIDE COMPOSITE MEMBRANE ELEMENT

LP-SERIES

> Spirally wound Reverse Osmosis element.
> Little elution occurs from the materials that form the element. This allows the specific resistance and TOC rise time to be reduced inultra pure water.
> Rich lineup of products for a wide range of water treatment applications.

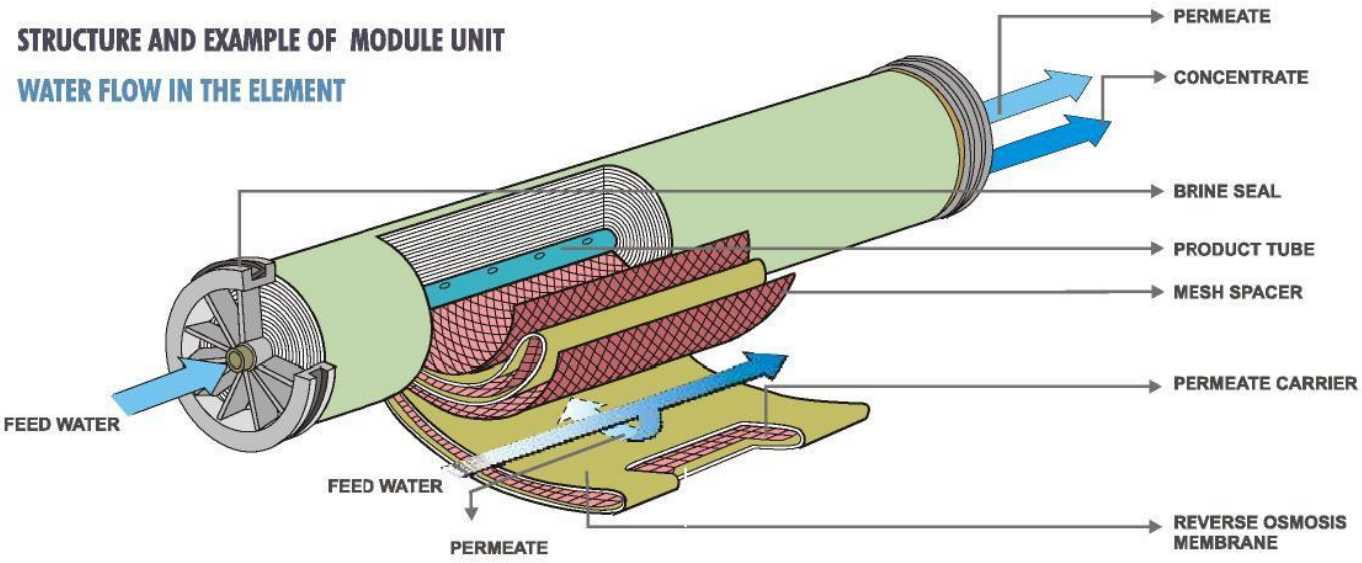
SW-SERIES

> Inner-connector type elements
> Inner-connector type elements are becoming the mainstream in the global market.
> The membrane area has been expanded, surpassing that of the SU series.

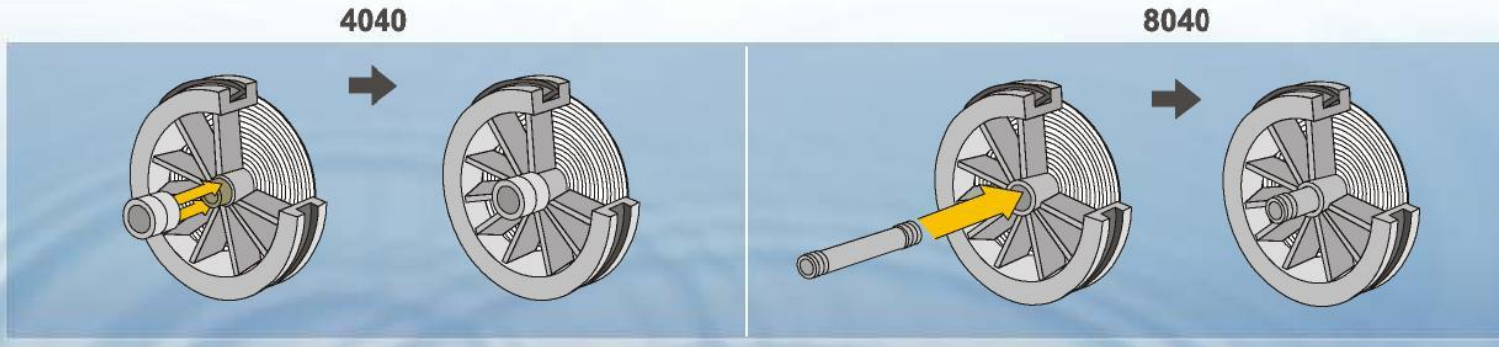
LP - SERIES | SW - SERIES

STRUCTURE AND EXAMPLE OF MODULE UNIT

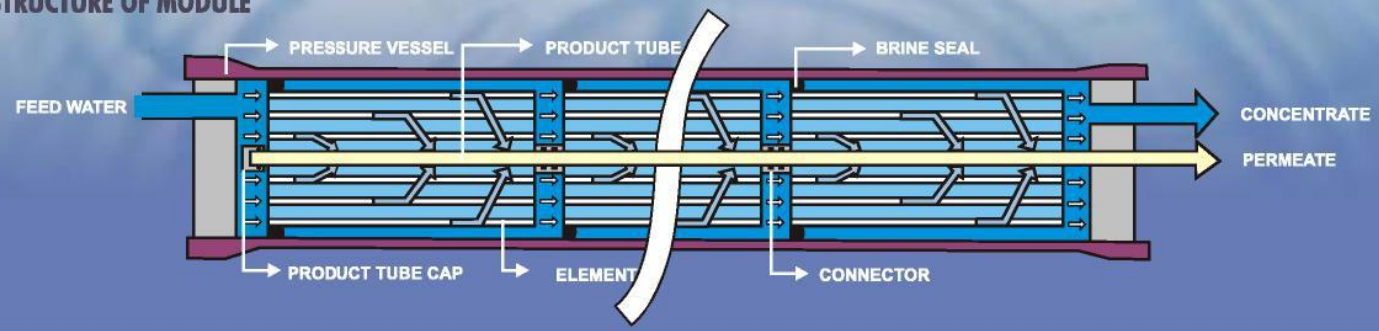
WATER FLOW IN THE ELEMENT



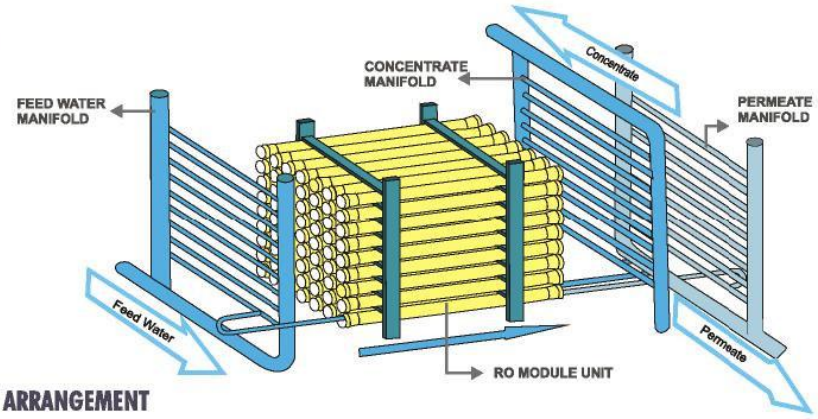
4040 / 8040 SERIES COMPARISON



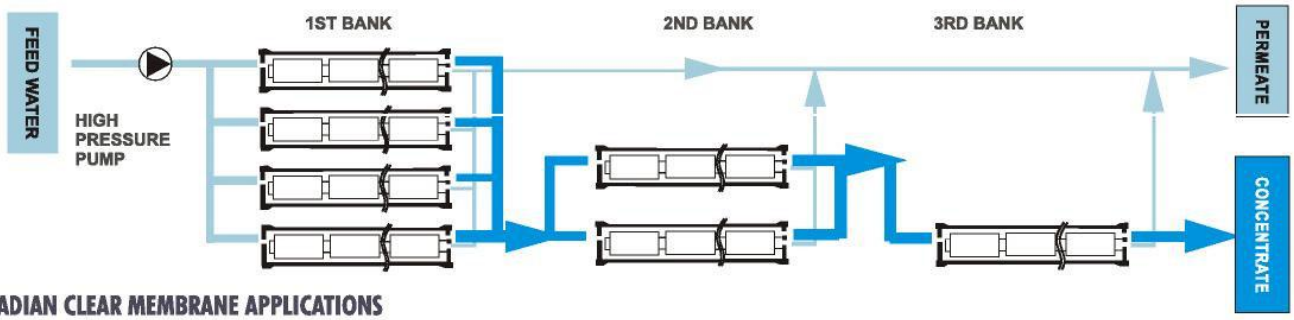
STRUCTURE OF MODULE



STRUCTURE OF MODULE

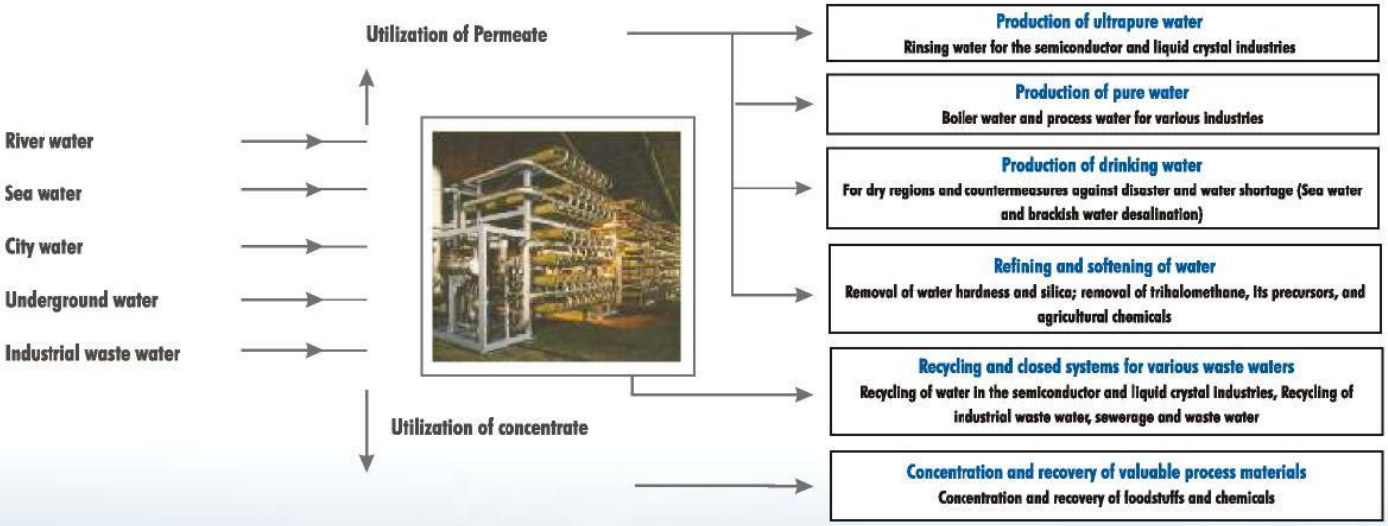


EXAMPLE OF RO MODULE ARRANGEMENT



CANADIAN CLEAR MEMBRANE APPLICATIONS

Water treatment for various usage of water. Canadian Clear Membranes produces the right water for a diverse assortment of applications.



MEMBRANE TYPE		CROSS LINKED POLYAMIDE							
OPERATING PRESSURE		ULTRA LOW PRESSURE				LOW PRESSURE		HIGH PRESSURE	
MODEL		ULP21 4040	ULP21 8040	ULP31 4040	ULP31 8040	LP21 4040	LP21 8040	SW21 4040	SW22 8040
AVERAGE SALT REJECTION (%)		99	99	99.4	99.5	99.5	99.5	99.5	99.7
M^3 / Day		9.5	41.6	7.2	36.3	9.1	36.3	4.5	18.7
TEST CONDITION	TESTING PRESSURE PSI (Mpa)	150 (1.03)	15 (1.03)	150 (1.03)	150 (1.03)	225 (1.55)	225 (1.55)	800 (5.5)	800 (5.5)
	CONCENTRATION OF TESTED SOLUTION NACL (Ppm)	1500	1500	1500	1500	2000	2000	32800	32800
	RECOVERY RATE (%)	15	15	15	15	15	15	8	8
	TEMPERATURE (C)	25	25	25	25	25	25	25	25
	PH	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5

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NEW CENTURY OF WATER CREATED BY CANADIAN CLEAR

Efficient use of water resources is an important challenge for us in the 21st century. A global shortage of water resources in expected, and consideration of the earth's environment has become more important in recent years, giving rise to a growing demand for reverse osmosis membranes.

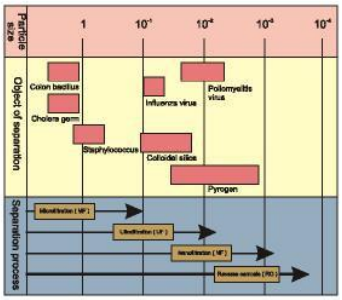
To excel in quality and high performance, CANADIAN CLEAR is a functional membrane element that was engineered through in-depth technical parameter. Involving technology from United States driven through membrane specialists and years of research and development in polymer engineering resulted in the birth of CANADIAN CLEAR reverse osmosis membrane.

CANADIAN CLEAR comes out of our abundant technical experience mapping through various segment of applications, including water & wastewater treatment.

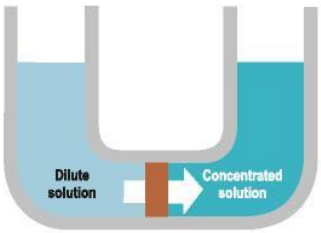
The product has proven its ability to perform in all water related needs around the world through our global coverage & operations.

WATER TREATMENT BY MEMBRANE SEPARATION TECHNOLOGY

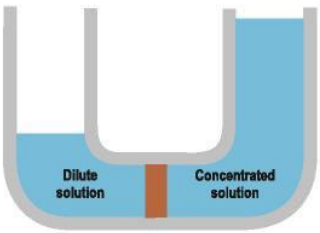
Membrane separation processes in current us include (1) Reverse Osmosis (RO), (2)Nanofiltration(NF), (3)Ultrafiltration(UF), and (4)Microfiltration (MF). Reverse Osmosis is capable of separating even ions and organic substances, which are the smallest solutes in aqueous solutions.



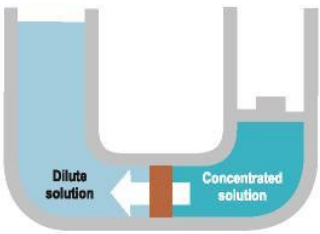
THE PRINCIPLE OF REVERSE OSMOSIS



When a dilute solution and a concentrated solution are partitioned by a semi-permeable membrane, the solvent (water in this case) passes through the membrane from the dilute side into the concentrated side. This phenomenon is called "osmosis."



When the osmosis reaches a state of equilibrium, the difference in pressure between the two solutions is called "osmotic pressure."



When a pressure greater than the osmotic pressure is applied to the concentrated side, the solvent will flow into the dilute side, that is in the direction opposite to osmosis. This phenomenon is called "Reverse Osmosis" (abbreviated as "RO")

FEATURES OF REVERSE OSMOSIS

1. Removal of dissolved salts - Reverse osmosis can effectively remove dissolved salts, dissolved organic substances (trihalomethene, its precursors, agricultural chemicals, etc.), and microfine particles (living bacteria, dead and many other microfine particles) from water. Thus it is ideal for a wide area of applications ranging from production of ultra pure water to desalination of seawater.

2. Energy-saving separation technique - Since reverse osmosis does not require the evaporation of water, it consumes less energy than separation processes that use evaporation.

3. Utilizable as a concentration and recovery method - Reverse osmosis does not need heating, so it can concentrate and recover valuable process materials dissolved in a solution without any degradation which might otherwise occur in such materials.

4. Compact configuration - Modules can be arranged in a three-dimensional configuration to provide excellent space efficiency, so the space needed for installation can be minimized.

5. Simple operation and control - Reverse Osmosis systems are simple, making them easy to operate and maintain.

RELIABLE TECHNOLOGY FOR WATER PRODUCTION

Incorporation an inner-connector type element, Canadian Clear membranes produces water for a variety of uses, thoroughly displaying the great performance of its Cross-Linked Polyamide Composite Membrane.

CROSS-LINKED POLYAMIDE COMPOSITE MEMBRANE

> Electric power costs can be reduced to a great extent since this membrane operates at low pressures.
> It has excellent properties for removing dissolved salts, TOC and silica, demonstrating superb performance in the production of seawater.

ASYMMETRICAL CELLULOSE ACETATE MEMBRANE

> Due to the non-charged membrane and unique element configuration, pretreatment can be carried out easily.
> The membranes can be used in a continuous chlorine Sterilization process.