

OPENING THE OCEANS TO THE WORLD

Sea Water Desalination Simplified



Canadian Crystalline Group of Companies was established in 1972. Canadian Crystalline Research and Development wing has the ability to design and develop complete Water Treatment and Purification Systems to the ultimate user. For the last 5 decades CANADIAN CRYSTALLINE has successfully designed manufactured, installed and commissioned number of Water Treatment Plants with indigenous and foreign technical know-how to prime industries, fertilizers, hospitals, Government and semi-Government organization, off-shore oil rigs, refineries, soft drink manufacturers, breweries and mineral water manufacturers for various applications.

Canadian Crystalline® is an ISO 9001 TUV Certified Company for design, manufacturing and marketing divisions.

Canadian Crystalline® has global operations with Channel Partners and own establishments over 52 Countries Worldwide. The company has a full-fledged R&D center where our engineer's work on new product design, development, as well as upgradation of existing ones and indigenization of foreign technologies obtained through collaborations.

Our international business division contributes a major share of the companies sales turn over. The company has established offices in Dubai, UAE, Africa as well as in USA and Australia to take care of regional support.



ready for the resource revolution

Water is a source of life and the world has only a total of 1.65 billion km³ of water. However, only 0.3% of this total quantity is theoretically usable as fresher water and only 10% of that (i.e. 0.03% of the world's water) is capable of economical utilization. In the environment report "Global 2000" the following comments occur: The notion that water is a freely available resource will no longer be encountered anywhere in the world in 20 years time.

Worldwide sea water Desalination has been a very effective and economical way of producing potable water for drinking and industries. It is a myth that seawater Desalination is exorbitantly expensive. But the fact is it is affordable. Reverse Osmosis plants to convert sea water to potable drinking water and for other usages have been prevalent throughout the world for more than 3 decades. The sea water reverse osmosis membranes have improved in technology and efficiency over the last 15 years.



The current technology available for sea water Desalination through reverse Osmosis System has proven to be cost effective and easily maintainable. With proper process design and efficient conservation of energy sea water Desalination system with Reverse Osmosis can be a long-term solution at an affordable price. With technologies to save power such as "energy recovery turbines" cost per ltr. of Desalinated sea water to potable water can work as low as US\$0.001 per litre. Including cost of running maintenance and power.

Advantages of Canadian Crystalline

Canadian Crystalline desalination plants are the complete solutions with readily assembled standard modules and modular building systems. This increases quality and reduces expenses and time is saved on assembly and commissioning.

We comprise materials and components of the highest and are manufactured in the best industrial environment and under strict specifications.

Canadian Crystalline Plants come in various sizes based on standard modules with all principal components.

The production capacity can be modified using standard modules combining different trains to construct broader range of capacities depending on the needs.



- 💧 Low cost desalination with reduced initial investment.
- 💧 Superior quality of desalination water.
- 💧 Simple operation and easy maintenance.
- 💧 Eco Friendly Systems.
- 💧 Modular design, easily expandable.
- 💧 Immediate delivery and pre installed equipments.
- 💧 Off the shelf modules

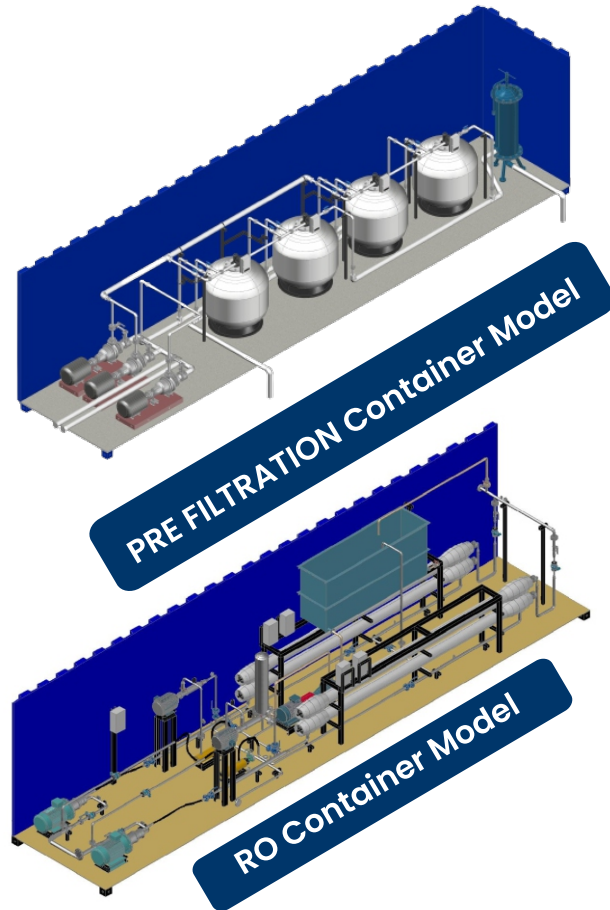
Applications

- 💧 Drinking water for municipalities, Townships, Ships and Barges.
- 💧 Drinking water for tourist resorts, development sites and start-up power plants.
- 💧 Processed water supply for all industrial applications.

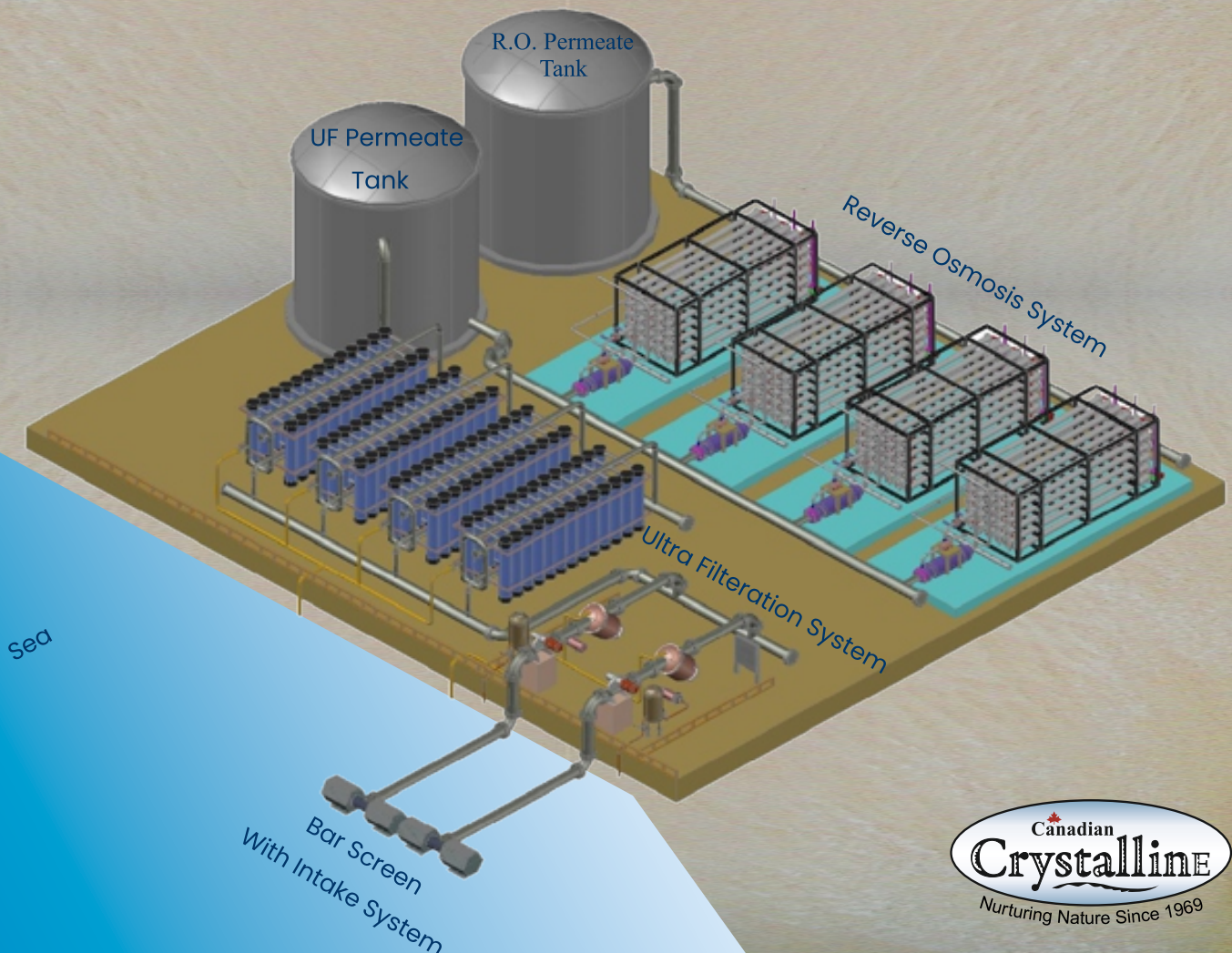
Canadian Crystalline with vivid innovation and development has created different designs and concepts for Desalination. All our system are compact my eliminating the high investment on civil infrastructures. The cost of implementing the Desalination plant is concentrated towards technology, plant and machinery rather than dumping money on gigantic civil structures

Canadian Crystalline has focused its expertise on compactness and readily available complete systems, which saves the essential factor of time. Technology is other primary core sector of Canadian Crystalline, which allows us to be different from our competitors.

We revel in technology, structuring layout. compactness, operation cost and in deliverance.



On site Floating Desalination Plant Model – 50 MLD



Containerized Reverse Osmosis systems (Brackish Water/Sea Water)

Canadian Crystalline has over the years built specialized brackish water and sea water plants keeping in focus relief agencies, war time army requirements, make shift facilities as well as sea side resorts.

Containerized Brackish / Sea water Desalination Systems are assembled in 20 feet and 40 feet containers to meet the needs for pre-installed equipments.

FEATURES

- ✓ Air Conditioning
- ✓ Internal Lighting
- ✓ Metal Checkered Floor
- ✓ Total Internal Piping with Water Treatment Plant
- ✓ Centralized Power Panel
- ✓ Voltage Protection Devices
- ✓ Windows (Optional)
- ✓ Power Jack Cabling between Generator & Container Main Panel
- ✓ Wall Panelling
- ✓ Polyurethane Insulation
- ✓ Instrumentation Panel
- ✓ Overload Protection Devices
- ✓ Input Output Water Pipelines with Enclosed Boxes



Skid Mounted RO Systems

Apart from the above, Canadian Crystalline uses special CPVC Frontal Piping for the pre-filtration along with advance composite FRP vessels for the Multi Media Filters. The raw Water Pump is inbuilt in the container to provide required feed to the pre-filtration. Specialized hi-tech supports are provided throughout the container to hold equipments and pipings from vibration and also to take the endurance of shifting the container from one place to another. Stainless Steel High Pressure Multistage Pumps from worlds leading brands like Pump Engineering, FEDCO Sulzer, ERI, Danfos or Canadian Crystalline (Canada) are used. State of the art Advance Composite FRP Epoxy Vessels, which can stand pressures from 400 to 1000 psi, are used as Reverse Osmosis Housings. Reverse Osmosis systems, CIP systems complete with CIP pump, CIP cartridge filter and CIP tank are provided for turnkey projects.



Pre Micron Bag filters as well as Cartridge Filters are provided prior to the Reverse Osmosis system. All pipings in the RO Systems are made out of Duplex SS / SS 316L, 316 and the Permeate line out of 304. Magnetic Flow Meters are provided in the product and reject output. Pressure cutoff switches for high pressure/low pressure, TDS, pH as well as ORP Digital Display cum Controller are provided interlocked with Annunciator Panel. Input, Output water jacks are provided with hoses for easy connection between containers. User-Friendly manuals are provided along with containerized project for easy start-up at site. The above systems are totally pre-installed.



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