Desalination

Municipal Water • Process Water • Industrial Wastewater & Reclamation • Seawater Reverse Osmosis

RWL Water[SM]

rwlwater.com

To ensure a consistent, reliable, and safe water supply, many communities, water authorities, and private companies are turning to desalination to meet their potable and process water needs.

Municipal Water Desalination

Implementing an efficient system under a cost-effective business model can greatly reduce the cost of clean, safe, and potable water. RWL Water's desalination systems produce drinking water from almost any source and are tailor-made based on site-specific feed water characteristics and specific product water quality requirements. RWL Water's state-of-the-art designs address the most demanding quality requirements, meeting and often exceeding our clients' expectations.

Providing potable water for island populations and remote communities presents special challenges. Where local water sources are limited or unfit for use, advanced treatment technologies must be utilized to purify and desalinate brackish, ground water, or seawater. RWL Water has extensive experience in developing and delivering water treatment plants to serve these needs. RWL Water's systems also provide emergency relief in the wake of natural disasters and ongoing water supply for troops in the field.

Our pre-assembled, pre-wired, and pre-piped containerized modules are specially designed for fast and easy installation and commissioning. The skid-mounted, pre-filtration systems and Reverse Osmosis (RO) units are shipped after complete validation testing at RWL Water's production facility. The systems are supplied with central control systems for easy operation and remote monitoring.

Process Water Desalination

RWL Water designs, manufactures, and commissions advanced systems for the production of process water. The systems are able to treat water from a wide variety of water sources, including brackish and seawater, and deal with a wide range of contaminants, including turbidity, salinity, arsenic, nitrates, and more.

RWL Water's systems provide process water for a wide variety of applications, including supplying permeate for cooling and other uses, supplying demineralized water for high-pressure steam boilers, conditioning of permeate for potable use, and more.

Industrial Wastewater and Reclamation Desalination

RWL Water designs, manufactures, and supplies wastewater treatment and reclamation systems for industrial use. Wastewater reclamation enables factories to minimize discharge and save on water costs by reusing effluent in various processes, while enabling municipalities to utilize effluents from biological wastewater treatment plants for irrigation processes.

Each system is designed and built to meet our clients' specifications, taking into consideration wastewater characteristics, effluent quality requirements, and potential for effluent recycling or reuse.

Designed to offer optimal process reliability and consistency, the systems offer a high level of automation and control, with minimal use of chemicals and minimization of wastes from the treatment process.

Seawater Reverse Osmosis (SWRO)

SWRO systems are tailor-made based on site-specific feed water characteristics and specific water quality requirements.

Seawater desalination systems incorporate Energy Recovery Devices (ERD), which reduce energy requirements by up to 40%, resulting in a more economical production of drinking or process water. Our systems feature components and equipment with the latest proven technologies, such as membranes with Nano particles and composite materials, special stainless steel alloys that are resistant to corrosion, and fully automated control and monitoring.

NIROBOX™

RWL Water's Nirobox is a state-of-the-art seawater desalination plant designed to supply high-quality drinking water for 500 to 20,000 people per day. Offering a low carbon footprint and minimal maintenance, Nirobox is an economical and efficient solution to the drinking water needs of small communities, mining sites, oil & gas operations, islands, and remote locations.

Typical Technologies Can Include:

- Sedimentation – gravity settling of suspended solids
- Flotation – removal of colloidal and dispersed particles and materials
- Conventional filtration – media or activated carbon
- Ultrafiltration (UF) – removal of residual suspended solids, colloidal and organic matter, and bacteria and viruses prior to Reverse Osmosis (RO) desalination
- Brackish Water Reverse Osmosis (BWRO)
- Seawater Reverse Osmosis (SWRO)
- Biological treatment
- Activated carbon
- Ion-selective resins
- Disinfection

System Configurations

- Mobile
- Skid mounted
- Containerized
- Full-scale plant

Case Studies

Episkopi Desalination Plant in Cyprus

The Episkopi Desalination Plant in Limassol, Cyprus was designed to provide the people of Cyprus with a reliable supply of potable water. RWL Water manufactured, installed, and commissioned the main process equipment of the plant. The treatment process comprises pre-treatment by ultrafiltration membranes and SWRO with energy recovery. The Episkopi plant offers an actual capacity of 50,000 m^3/d of drinking water for Limassol residents.

Brackish Water Desalination at Oilfield in Colombia

At a remote oilfield in Colombia, RWL Water provided a high recovery, produced water treatment and a desalination system for reuse for client Pacific Rubiales. The feed water is brackish and contains oils, hydrocarbons, solids, and other contaminants, all of which must be removed before the desalination process. To effectively treat the brackish water remaining from the drilling process and maximize water reuse while eliminating brine disposal, a multistage treatment plant was needed. The multistage, fully automated produced water treatment and desalination plant is designed to accommodate approximately 4,000 m^3/h, or 500,000 barrels per day of treated produced water.

Desalination

Founded by Ronald S. Lauder, RWL Water was established with a vision to become the leading global water, wastewater, and reuse solutions provider in the middle market. Our mission is to provide leading-edge sustainable solutions by deploying our internationally experienced and highly responsive team, dedicated to achieving clients' economic and operational goals.

We have designed and built more than 7,000 plants for clients on all seven continents – in deserts and mountains, icy regions, seashores, and riverside communities. RWL Water has a reputation for innovative engineering and fast deployment to meet the needs of industrial and municipal clients around the world.

Each custom water system is individually designed and built, considering the existing wastewater's characteristics and effluent quality requirements. We perform a cost-benefit assessment, balancing investment costs with ongoing operation and maintenance costs to build a solution that is right for you.

Our core operations are strategically located in North & South America, the Middle East, and Europe to provide rapid response through our network of sales, service, technical, and engineering professionals worldwide.

7,000+ INSTALLATIONS

200+ EMPLOYEES

70+ COUNTRIES WITH INSTALLATIONS

RWL Water offers any combination of tailored finance packages, as well as operation and maintenance services, for its treatment plants.

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