

Waterland Water Treatment  
Environmental Technologies





24 COUNTRY CUSTOMERS

20 YEARS OF EXPERIENCE

2,5 MILLION HOURS OF ENGINEERING EXPERIENCE

500 DELIVERED SYSTEMS ALL AROUND THE WORLD

80 PERCENT EXPORTS

1.750.000 m<sup>3</sup> TREATED WATER

WE HAVE MORE THAN 20 YEARS' EXPERIENCE IN THE FIELD OF INDUSTRIAL WATER AND WASTEWATER TREATMENT IN DIFFERENT TYPE OF INDUSTRIES

# Waterland Water Treatment Environmental Technologies

## Who Are We?

WATERLAND, established in 2007 with 14 years of experience of the founders, has become an outstanding company in water treatment and environmental technologies. Young, dynamic, experienced and trained staff brings a new perspective to the treatment sector with their ethics and respect to humans and environment.

Our main aim is to provide economic and efficient solutions to end users and other treatment companies while retaining customer satisfaction. Our world-class engineers and water recovery specialists can help you on everything from initial bidding and document specification through designing, production, installation, start-up and on-site training followed by maintenance and technical services of the system.

Waterland also manufactures of equipment for industrial and municipal water & wastewater treatment systems to treat, recover and reuse the water even in high-risky industrial environments. We are proud to offer you our services on maintenance of already built plants. We ensure that your facility follows the government regulations and we trust our ISO 14001, ISO 9001 and OHSAS 18001 service adequacy certificates.

## Our Vision

As Waterland, our objective is to improve our technical knowledge and skills by keeping ourselves updated on continuously developing and evolving technologies to provide most innovative solutions to all humanity.

## Our Mission

As Waterland, we believe that the only trace we can leave to this world would be by serving people and humanity. Hence, we are serving for over 14 years in water and environmental technologies sector. Along with our expertise and knowledge; our principles, ethics, and attitude towards everyone has led us where we are today, a known and trustworthy company in the sector.

## Waterland Around The World

Other than Turkey, you can find our systems in Azerbaijan, Turkmenistan, Kazakhstan, Iraq, Egypt, Cyprus, Jordan, Libya, Kuwait, Japan, Kosovo, South Africa, Dubai, Qatar and Maldives.

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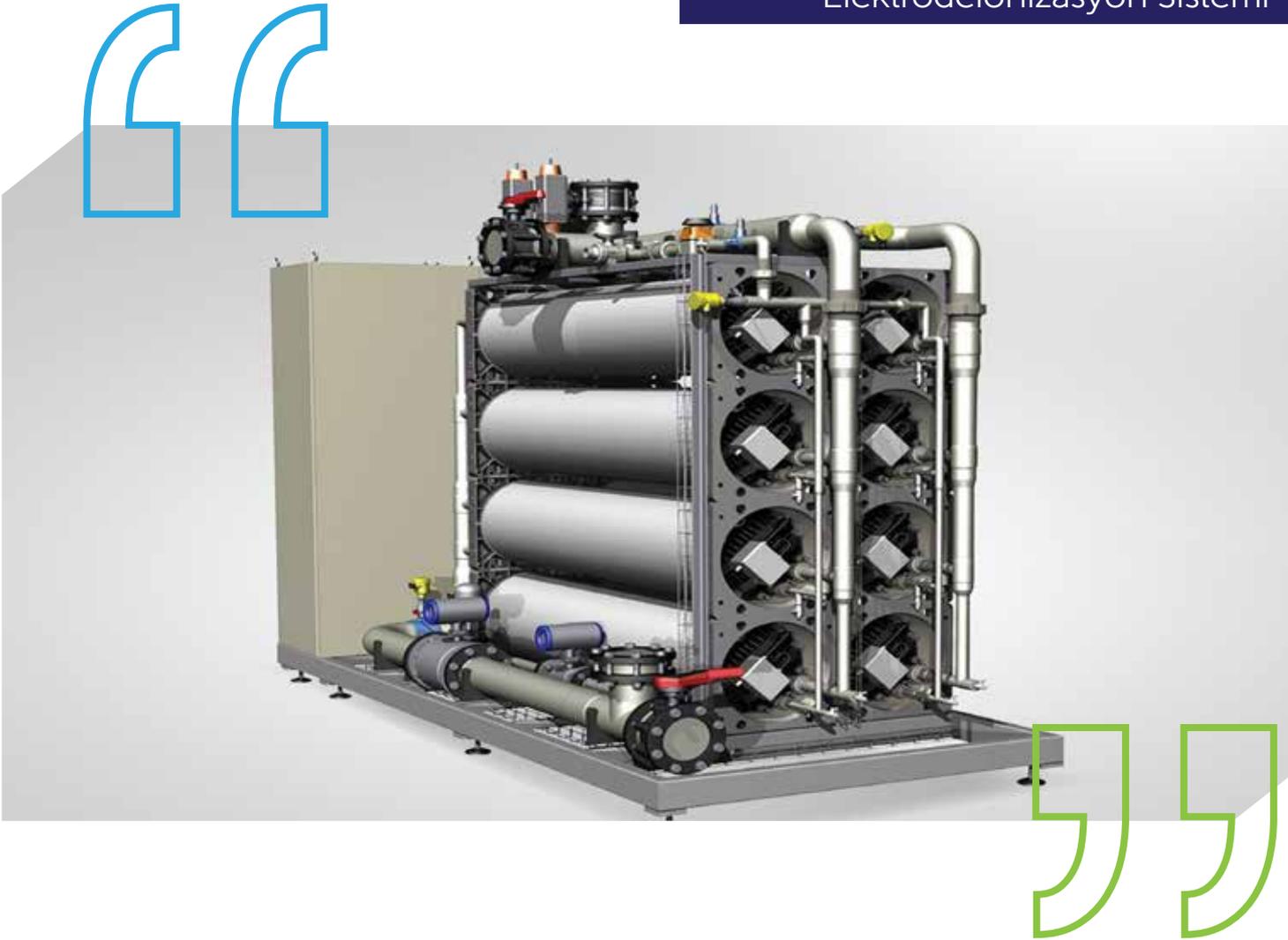
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## SOFTENING SYSTEMS

### Yumuşatma Sistemleri



Water softening is achieved by utilization of the well known ion exchange principle. Natural science experiments brought the knowledge that ion exchange can occur between an ion in solution and an insoluble solid substance. Procedures based on this principle have already been in use for more than 50 years in domestic technology, in trade and in industry. Cation exchangers are hereby used. They exchange hardness formers in water (calcium and magnesium ions) for sodium ions. Waterland single or tandem softening systems are both suitable and economical for industries with 24 hours water need and water supplies with very high values of hardness.



EDI system is a continuous electro-chemical process of water deionization where ion specific membranes, mixed bed resin and a DC voltage across them replace the standard hazardous acid-caustic chemical regeneration process.

Structure, several layers of ion selective membranes are positioned between an anode and a cathode. The chambers in between these layers alternately either contain mixed bed ion exchanger or are used as concentrate chambers.

Final product water quality will vary with the incoming RO permeate water quality and the temperature of the water.

The incoming RO permeate meet the specified quality requirements.

### Application

EDI systems operate chemical free achieve %95 water recovery and consume only electricity

They are ideal for multiple applications including: power generation for boiler feed and NOx control, semiconductors, micro electronics, food and beverage and pharmaceuticals, Ultrapure Water.

## IRON-MANGANESE REMOVAL

### Demir-mangan Giderimi



How iron and manganese are removed depends on the type and concentration of water, and this helps determine the best procedure and treatment system. Iron and manganese can be present in water in one of three basic forms: dissolved, particulate and colloidal. The predominance of one form over another is depend on water's pH. The two most common treatment methods are removal by oxidation/filtration and adsorbing onto ion exchange resins.

Oxidation involves the introduction of an oxidizing agent which chemically reacts with the iron or manganese to form an insoluble particle which can then be physically filtered out through a media bed.

These filters can be manufactured as FRP, ST37 Carbon Steel and Stainless steel.

## SAND & ACTIVATED CARBON FILTER

### Kum ve Aktif Karbon Filtre



These filters are normally used to remove suspended solid substances that cause turbidity in water. Their operation is very simple and allowing water to pass through several layers of quartz (sand) and, possibly, a layer of anthracite. The water passes through the filtering part, moving in the top-down direction, and during the process the substances retained on the first upper layer of sand increase filtration efficiency in the subsequent layers.

To clean the sand and thus regenerate the filter it is necessary to perform a backwash, whereby water (or water and air) passes through the filter from the bottom upwards, so that the backwash water will draw the previously filtered substances towards the point of discharge.

As filter tanks, FRP (Fiber Reinforced Polymers/Plastic), carbon steel or galvanized tanks are used. Especially FRP tanks are preferred in terms of their endurance against rusting and corrosion and their long life cycle.



### Green House Water Treatment Plant

Irrigation and fogging water which will be used to provide desired product quality in modern greenhouses and agricultural applications are maintained from well water, river water or sea water depending on the location of greenhouse. Especially, in cocopit based greenhouse applications quality of irrigation water is important since it affects the product quality directly. In cocopit based greenhouse applications EC and pH values of irrigation water must be provided according to product requirement.

For water treatment systems in greenhouses Waterland provides turn-key Filtration Systems, Ultrafiltration Systems, Sea Water and Well Water Reverse Osmosis Systems with its expert engineering and technical staff. After mounting and start-up phases all training is given by expert staff and therefore Waterland supports after-sale services by providing optimum usage level for the system.

Indeed, product water storage tank requirements of water treatment systems going to be installed are provided and mounted modularly by Waterland technical staff.



Zorlu Holding - Korteks  
Wastewater Recycling System

## WE ARE TURKEY'S FIRST REVERSE OSMOSIS SYSTEM MANUFACTURERS!

Well water reverse osmosis systems are the most suitable systems for making light salty or bitter waters such as lakes, rivers, underground, surface waters, drinkable and usable.

Waterland's Brackish Reverse Osmosis (BWRO) plants are designed to treat water; with < 4000 mg/L of dissolved solids (TDS) and < 10 mg/L of suspended solids (TSS), to achieve potable filtration.

Application Areas: Water bottling plants, hospitals, hotels, greenhouses and irrigation for agricultural purposes, boiler feed water, laboratories, factories are actively used in the preparation of process water.

### Standard Equipments

- Skid Mounted Plant & Equipment
- Low and High Pressure Pumps
- Sand and Cartridge Filters
- Anti Scalant Dosing System
- Membrane CIP & Auto Flush
- System PLC Control System with HMI

### Standard Instruments

- Pressure Gauge
- HP RO Pump low and high pressure switch
- Flow gauges

# REVERSE OSMOSIS SYSTEMS FOR SEA WATER

## Deniz Suyu İçin Ters Ozmos Sistemleri



Advantage; up to 60% energy savings and short payback time compared to conventional systems.

Seawater reverse osmosis systems are used in business and residential units where water resources are inadequate and sea water use is required. It is designed for high capacity enterprises, power plants, hotels, municipalities and any type of organizations with high water needs. Waterland's Seawater Reverse Osmosis (SWRO) plants are designed to treat water; with < 35000 mg/L of dissolved solids (TDS) and < 10 mg/L of suspended solids (TSS), to achieve potable filtration.

Seawater reverse osmosis models have high electricity consumption, they are designed by using energy recovery systems according to the process for energy saving of enterprises.

The pump system used in seawater reverse osmosis systems should be selected as suitable for water treatment applications such as salt water and desalination of seawater. Also, materials that come into contact with water in the pressure transducer must be made of duplex stainless steel and ceramic.

### Optional Equipments

- Optional Ultra Filtration
- Optional Activated Carbon
- Container with Isolation & climated
- Additional Post-RO Treatment
- Premium Instrumentation Package
- Permeate Distribution Pump Set

### Optional Instruments

- Pressure transmitters
- Flow transmitters
- Remote monitoring control capacities

Application Areas: Water Filling Factories, Irrigation and Greenhouse, Textile Factories, City Drinking Water Facilities, Hotel, Camp, School Boiler Feed Water Preparation, Water Recovery Systems, Other Industrial Processes

## CONTAINER REVERSE OSMOSIS SYSTEMS

### Konteyner Ters Ozmos Sistemleri



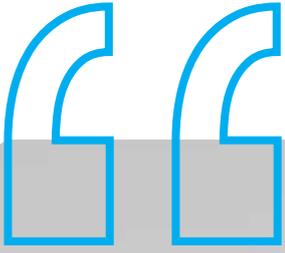
Mobile reverse osmosis systems are mostly preferred in businesses with lack of space due to the ease of transport and no extra space required. These systems are favorable not only because of the simple installation and start up but also operation and maintenance advantages. Container osmosis systems are ready systems that are mounted in the container including all the mechanical and electrical installations, ready to start. By only connecting the water inlet and outlets, these mobile systems can be placed anywhere and then transported at any time. Excluding the water treatment system, heat isolation, air condition and lighting installations are also arranged.

Standard Specifications: Stainless steel or FRP membrane sheath, Membranes 4" or 8" diameter, Vertical multistage centrifugal high-pressure pump, cartridge filter, Antiscalant dosage pump, High and low pressure pipes: U-PVC / Zonder, Automatic valves are solenoid / valve electric actuator, pressure switches, conductivity meter, manometers, Air-conditioning, lighting and insulated 20 ft / 40 ft Container, Automatic flushline, RO control panel, 380V/50Hz/3ph



## MOBILE DESIGN WATER COMPACT UNIT

### Mobil Tasarım Nehir Suyu Arıtma Sistemleri



Desing By WATERLAND



## POTABLE WATER, WHEREVER YOU NEED IT, HOWEVER YOU WANT IT.

Trailer WCU Systems are easy to transport, economic, and user friendly. They are preferred to supply good quality water. As WATERLAND we can manufacture these units in various capacities to supply water to end-user. Designed based on your capacity needs and technical requirements, Waterland is capable of providing you the most efficient solution when it comes to water. Our most trending solution, Water Compact Unit, Trailer Systems can provide up to 65 m<sup>3</sup>/hr product water of 5-8 NTU turbidity and 1-5 mg/L TSS values. These mobile systems are the best for military or refugee camps, small residential areas, areas with urgent water needs such as after flood, earthquake etc

#### STANDART TECHNICAL SPECIFICATIONS

- Epoxy Coated ST 37 carbon steel body
- Lamella from GRP / PVC
- Alum Dosing System
- Rapid and Slow Mixing
- Stainless Steel Mixers
- Stairs and Walking Path
- Control Panel
- Chlorination System ( Liquid / Gas )
- Electro Magnetic Flowmeter.

#### AREA OF APLICATION

Factories, Hotels, Ports, any type of residential area which is close to a surface water source.



Evaporation is being considered as an alternative process in an increasing number of water treatment applications. It can be effective for concentrating or removing salts, heavy metals and a variety of hazardous materials from solution. Also, it may be used to recover useful by-products from a solution, or to concentrate liquid wastes prior to additional treatment and final disposal. Most applications of the technology also produce a high quality, reusable distillate—a very important feature where water conservation is a priority.

During evaporation, a solution is concentrated when a portion of the solvent, usually water, is vaporized, leaving behind a saline liquor that contains virtually all of the dissolved solids, or solute, from the original feed. The process may be carried out naturally in solar evaporation ponds, or through the use of commercial-available evaporation equipment.

### Water Reuse

In this area evaporation has several advantages over conventional physical-chemical processes, one of the most significant is the high quality of the distillate. Most installations can produce a distillate TDS of less than 10 mg/l, and in some cases, less than 2 mg/l.

Not only does the recovered water from an evaporator meet most discharge specifications, it can almost always be recycled for reuse in manufacturing or cooling applications. In one metal finishing installation, distillate was recycled as process rinse water at a volume ten times less than the quantity of city water required to do the job.

### Evaporator Applications

Zero liquid discharge

Water reuse

Metal finishing

## WATER BOTTLING FILLING LINE

### Su Şişeleme ve Dolum Hattı



### BOTTLE FILLING LINE

Waterland offers standard Machine for PET Bottle Filling Line. for Carbonated/Non Carbonated water, Oil and Juice.

#### Waterland Range or Products

- Bottles Blow Molding Machine
- Unacrambler and Air Conveyors
- Mono Block 3 in one Machine (Rinsing, Filling and Capping) for Carbonated and Non-carbonated system
- Bottle Inspector Machine for foreign objects (Iron, Plastic and Carton)
- Shrink Sleeve labeling machine
- Mixer for carbonated water
- Blending system for Flavored Water

#### Waterland Scope of Supply (Turnkey Project)

- Design
- Engineering
- Supply of all Equipments
- Installation and start-up
- Commission of the complete line
- Staff training
- Warranty
- After Sales service



Ultrafiltration (UF) modules has a pore size of 0,02 micron, therefore particles larger than this pore size is removed by the UF membrane, including viruses and bacteria. Ultrafiltration Systems are perfect treatment method for SS (Suspended solids), TOC (Total organic carbon), turbidity, bacteria, viruses and other microorganisms without causing any change in chemical characteristic of the water.

With high performance and treatment efficiency UF systems are more compact. The system capacity might be easily upgraded in UF systems. UF modules are mounted vertically. In WATERLAND's designs all backwashes and chemical cleanings are done automatically.

Besides surface water treatment, UF systems can be used to treat output of conventional biological wastewater treatment units before feeding them to RO's and has great importance in wastewater recycling systems.

UF systems are also used in sea water RO systems as pre-treatment, in beverage industry as disinfection unit because of its reliability, in food industry, in natural water bottling factories, in indirect disinfection of water and in many special processes. They play a significant role in special designs of wastewater recovery systems, also in MBR rooted water recovery processes

## Advantages Of Ultrafiltration Systems vs Conventional Filtration

Less area needed

Flexible system design

Less running cost

## Standard Technical Specifications

Vertical UF membrane module

Stainless Steel chemical cleaning pump

Automatic chemical and backwash units

Electrical actuator valves

Manometers

Pressure transmitter for pressure difference control

Control panel with PLC

Skid Stainless Steel / Epoxy coated ST 37 Carbon steel

## Area Of Application

Water bottling factories

Greenhouse and dewatering

Textile Industry

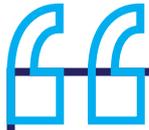
Residential areas, drinking water facilities

Hotel, Camping, School

Boiler feed water

Waste water recycling

Other industrial facilities



# WATERLAND PROCESSES



## DISSOLVED AIR FLOTATION (DAF)

The removal is achieved by dissolving air in the water or wastewater under pressure and then releasing the air at atmospheric pressure in a flotation tank basin. The system has an option to be designed as Chemical DAF

The material can be stainless steel, concrete or with polyethylene sleeving. The components, return pump and the pressure tank is manufactured stainless steel. The minimum design capacity is 10 m<sup>3</sup>/h and the system is fully automated.



## PROTECFILTER

Protecfiler uses fibers of varying diameters to produce a pore size distribution from coarse (upstream) to fine (downstream) and is all polypropylene for compatibility with a wide range of fluids allowing absolute filter ratios of 99.9 % particle retention. The filters can be used in water filtration, beverage industry, pharmaceutical industry, chemical industry, oil industry and as a pretreatment unit to Reverse Osmosis.



## OZONE GENERATOR

When dry air or oxygen flows between the electrodes, oxygen atoms are ionized, and ozone is formed by recombination of ionized oxygen atoms and unionized oxygen molecules. The system units operate on 25g/hr and its multiplications. The system is manufactured as stainless steel and operated as plate type.



## ULTRAVIOLET DISINFECTION (UV)

Disinfection with ultraviolet radiation is used to remove microorganisms without adding a chemical or an oxidant to the water. The system produces short UV waves using a low pressurized mercury lamp to eliminate bacteria, protozoa, virus, mold, fungi, algae and their offspring



## MINERALS

Quartz Sand  
Activated Carbon  
Anionic/Cationic/Mix-bed Ion Exchange Resin  
Anthracite  
Birm  
AquaMandix  
Dolomite



## DOSING PUMPS

On-off, flow, pH and ORP controlled, with level control inlet, suction and mounting kit included dosage pumps with the option of digital screen. The flow range is 0,4-54 lt/hr. Also for the systems having big capacity can be supplied the dosing pumps with mechanical diaphragm having flow range between 15 - 500 lt/h.

# MEMBRANE BIOREACTORS

## Membran Bioreaktor



Wastewater can be reused in industries depending on the quality and the quantity of the effluent. MBR systems are the most frequently asked treatment option for hotels, hospitals, laundries, agricultural and landscape irrigation, recreational pond systems, wastewaters like landfill leachate with high nitrogen composition and gray water recovery. They are basically the improved version of activated sludge systems by adding membrane filtration.

These systems can remove turbidity, pathogens and viruses and the effluent will have the required standard values for BOD, SS, Nitrogen.

### What are the membrane bioreactors ?

Membrane bioreactor (MBR) is generally a term used to define wastewater treatment processes where a perm-selective membrane, eg. microfiltration or ultrafiltration, is integrated with a biological process specifically a suspended growth bioreactor.

MBRs differ from 'polishing' processes where the membrane is employed as a discrete tertiary treatment step with no return of the active biomass to the biological process.

Almost all commercial MBR processes available today use the membrane as filter, rejective the solid materials which are developed by the biological process, resulting in a clean and disinfected product effluent.

### Advantages:

Secondary clarifiers and tertiary filtration processes are eliminated, there by reducing plant footprint. In certain instances, footprint can be further reduced because other process units such as digestors or UV disinfection can also be eliminated (depending on governing regulations)

Can be designed to prolong sludge age, hence lower sludge production

High effluent quality

High loading rate capability

### Applicability

Membrane Bioreactor systems are widely used in municipal and industrial wastewater treatment plants. Furthermore, MBRs are also suitable for landfill leachate treatment. It is a high-tech system that needs expert design and Professional operators.



RBC systems are highly stable and efficient solutions for wastewater treatment. These systems are usually operated as post treatment for activated sludge processes in conventional domestic black or gray water treatment, or as decentralized treatments for small to medium sized residential areas, industries or institutions. RBCs can achieve a high removal from biodegradable organic pollutants as well as high-strength industrial wastewater.

Systems are fabricated from fiber reinforced polyester which eliminates any concerns for deterioration from the corrosive effects of alkali matters in the system and the wear-down effect of harsh environmental conditions including Ultraviolet rays. Periodic painting and maintenance which are common concerns for systems manufactured from steel are not applicable for the The discs in the system are also made of corrosion-proof polyethylene which is a preferred material in the chemical industry for storage of harsh chemicals. Together, these advantages combine to make a virtually indestructible treatment plant with little or no maintenance problems.

One of the most important features of the System which is not available in any other package wastewater treatment alternative is the ability to increase the capacity of the current system by simply adding disks or 10, 100 or 250 people equivalent modular compartments. Additional capacity increase can also be achieved by usage of the optional frequency converter that can increase the speed in which the disks rotate are thereby increasing aeration.

Thanks to its modular design, is the only package wastewater system which has the ability to lower its capacity in times of lower flow rates via bypassing unused compartments and routing the wastewater to the last modular unit in order to conserve valuable energy. Because of its modularity, can also be easily transported in the event the operation is relocated.



### Chemical Water Treatment

We have a complete series of advanced chemical solutions for every stage of your industrial water operation. From the intake of raw water or pretreatment for utility makeup to wastewater disposal, Waterland can provide a chemical treatment program customized for your unique system requirements. Waterland truly excels when it comes to the application of chemical solutions and technologies. Water treatment is a science, but the optimal diagnosis and selection of a treatment program can be an art. It takes years of field experience to learn how to evaluate a water system and determine its potential to corrode, scale, or foul the various heat transfer surfaces. A water treatment chemical program needs to be customized and applied with the utmost care. We regularly monitor the water quality in our customer's systems and make prompt recommendations for adjustments when needed.

**Application Areas:** Boilers, Cooling Systems, Pretreatment, Raw & Waste Water

### Raw Water & Wastewater Chemical Programmes

Waterland's chemical programs for raw water and wastewater treatment are for the removal of suspended and dissolved solids from both industrial influent and effluent waters. These programs are custom-designed to help our customers to protect their systems and the environment, as well as comply with state and government discharge regulations. There are several methods for the separation of solids and liquid in influent and effluent waters. Mechanical methods may include sedimentation, straining, flotation, and filtration. Coagulation and flocculation chemicals are used in the treatment process for water clarification, lime softening, sludge thickening, and solids dewatering and removal. In addition, we have specific chemical treatments for the wastewater needs of various industries, such as: heavy metals removal, oil/water emulsions, odor control, and defoaming.



## Chemical Treatment For Boilers

Waterland's field engineers provide the highest level of boiler treatment expertise available. Our full line of boiler chemicals is designed to keep your system free from scale and corrosion, giving you more time to focus on what matters most. Both corrosion and deposition can be seriously problematic when it comes to the function of your boiler system. The formation of deposits such as scale and sludge in a boiler system, results in elevated metal temperatures that cause tube failures and restricted circulation. Boiler system corrosion leads to localized pitting and/or thinning of pipe and tube surfaces, resulting in leaks and tube failures. Both issues will significantly reduce a system's efficiency, and compromise a boiler's reliability. Waterland's boiler chemicals can take care of these issues when properly applied by one of our local field engineers.

## Cooling Tower Water Treatment

Our chemical programs are effectively used for the reduction and prevention of the three major issues your industrial cooling water system may encounter: corrosion, deposition, and microbial growth. Corrosion leads to metal loss that can result in critical system failures in heat exchangers, recirculating water piping, and process cooling equipment. Corrosion also results in a loss of efficiency as corrosion products precipitate on heat transfer devices, insulating the metals. Cooling towers are vulnerable to a variety of contaminants that cause deposit formation, such as mineral scales and sludge. Deposition interferes with heat transfer, increases corrosion rates, restricts water flow, and causes loss of process efficiency and production. Biological organisms, including algae, bacteria, protozoa, and fungi, often find their breeding grounds in cooling towers. If not properly controlled, biological growth forms and acts as a natural adhesion surface for scale formation, resulting in fouling. All of these conditions can be seriously problematic when it comes to optimizing the efficiency of your cooling water tower or system. Waterland's full range of cooling water chemicals can provide excellent protection against these cooling system challenges.

## Pretreatment

Treatment of your make up water with the help of one of our chemical programs is essential for optimizing the success of any filtration or membrane system. A pretreatment program from your Waterland field engineer may include filter treatment, water softening, or both. Good filter treatment for industrial reverse osmosis membranes is necessary to remove suspended solids, colloidal material, and metals that create the need for more frequent cleaning and replacement. Water softeners remove calcium and magnesium ions from makeup water. If not properly treated, these ions can serve as the basis for forming insoluble compounds that will precipitate within the system.

## PACKAGE WASTE WATER TREATMENT SYSTEM

### Paket Atık Su Arıtma Sistemi



The term "package plant" originated from the fact that these types of treatment plants were constructed and assembled at a factory and then shipped and installed "pre-packaged" as a complete unit.

Container type reverse osmosis systems; In places where there is a saving of space, it is mostly preferred for ease of transportation and no need for extra building.

Besides the ease of installation and commissioning, there are also operating and maintenance advantages. Container type reverse osmosis systems; All systems related to the treatment system are assembled in a container, mechanical and electrical installations are drawn and ready for commissioning.

They are mobile systems that can only be installed and disassembled to another place by entering the water inlet-outlet and waste line. Outside the treatment system; heat insulation, air conditioning and lighting installations are also available.

Package WasteWater Treatment Systems can be manufactured from; Steel Construction (ST 37 Carbon Steel, AISI 304, AISI 316L/Ti Stainless Steel), Plastic Construction (HDPE, PP), GRP

### Standard Technical Specifications

Epoxy Coated Carbon Steel Body

Basket Screen

Blower & Diffuser

Weir

Sludge Recycle Pump

Chlorine Dosing System

PLC Control Panel

### Application Areas:

Water Filling Plants, Irrigation and Greenhouse,  
Textile Factories, Hotel, Camp, School,  
Boiler Feed Water Preparation,  
Water Recycling Systems,  
Other Industrial Processes



HYDRODIS R 859 ANTISCALANT, Is the only non-equivalent product in the world that prevents 100% blockage of membranes in reverse osmosis systems. The perfect dispersion occurs thanks to defloculant as the performance. So that the solid particles in the water flow of providing suspended colloidal particles much better homogeneous as the distribution of provides.

It has been proven that sea water, well water and river water reverse osmosis systems achieve 75% to 90% of high silica and iron removal. Due to this success, membrane washing is not required in installations using HYDRODIS R 859 ANTISCALANT. The low-dosing HYDRODIS R 859 ANTISCALANT is economical at the same time.

Feedwater source	BW	SW
CaCO <sub>3</sub>	***	***
CaSO <sub>4</sub>	***	***
BaSO <sub>4</sub> / SrSO <sub>4</sub>	**	**
SiO <sub>2</sub>	**	**
CaF <sub>2</sub>	**	**
Ca <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub>	***	***
Fouling Inhibition	***	***
Fe / Mn	***	***

\*\*\* Excellent \*\* Very Good \*\* Good ○ Fair ○ Limited • Not Effective

### ADVANTAGES

- Highly effective antiscalant for very wide water spectrum.
- Reduce membrane cleaning processes.
- Can be dosed directly to the system since the use is ready
- Our chemicals have been tested on Dow, Hydranautics. Koch, Filmtec, GE, Vontron, Nanotech brand reverse osmosis membranes.
- Keeps the formation of crust and sediment under control.
- Our products are manufactured in accordance with food safety and drinking water quality standards.

Please click here to reach the local dealer.

# FILTERLAND AUTOMATIC SELF - CLEANING FILTER

## Filterland Otomatik Geri Yıkamalı Filtre



Based on the removal rate required, the particles are filtered through regardless of their structure or density. The removed particles that are accumulated on the filter is vacuumed with 100% backwash efficiency. The backwash process is dependent on the pressure difference. Filtration is continuous during the backwashing process. The filter element can be easily changed based on the required filter sensitivity.

### Application

Ballast Water Filtration, Petrochemicals  
Paper Industry, Sugar Industry  
Metal Processing Plants  
Sea Water, Plastic Industry  
Food And Beverage Industry  
Power Plants, Waste Recycling

### Product Features

Product code	Flow (m <sup>3</sup> /h)	Filtrasyon Hassasiyeti (micron)	Basınç (bar)
F-40	1 - 40	10 - 300	6 - 10
F-80	40 - 80	10 - 300	6 - 10
F-120	80 - 120	10 - 300	6 - 10
F-180	120 - 180	10 - 300	6 - 10
F-250	180 - 250	10 - 300	6 - 10
F-350	250 - 350	10 - 300	6 - 10
F-500	350 - 500	10 - 300	6 - 10
F-750	500 - 750	10 - 300	6 - 10
F-1000	750 - 1000	10 - 300	6 - 10
F-1200	1000 - 1200	10 - 300	6 - 10



eOxi is a synthetic chemical with very strong oxidation characteristics. It has 100% efficiency on the removal of bacteria, virus, algae, parasites, mold and yeast, due to being the strongest disinfectant known.

Fights against bacteria, fungi, algæ, and viruses non-stop. Because of its high concentration, small amount of eOXI will be enough for sufficient disinfection.

eOXI can easily be injected to the water by the help of a standard dosing pump by time or flow control.

### Application

Water Bottling factories, Greenhouses,  
Dairy and Juice Factories,  
Poultry yards, Hospitals, Schools,  
Hotels, etc...

### Advantages

- Optional Directly producing eOXI inside water
- Disinfection of microorganisms permanently
- No odor
- Decrease in the number of COD /TOC / BOD
- Less potassium permanganate usage
- Lipolysis
- Removal of toxic substances by oxidation and hydrolysis
- Increase of redox potential
- Removal of sulfur
- High performance with small volume

## WATER COMPACT UNIT

### Nehir Suyu Arıtma Sistemleri



The units are normally installed along a surface water source (river or lake). The units are factory built in coated mild steel construction ready to install upon delivery to the site. The Waterland Compact water treatment units have been designed in the shape of standard ISO containers convenient for shipping and easy to install. Standard capacities range from 50-200 m<sup>3</sup> /h. Multiples of those units are normally used for larger installations. Compact Water Treatment Plant: This system includes coagulation, flocculation, sedimentation, filtering units and Disinfection station.

### Standard Technical Specifications

- Epoxy Coated ST 37 carbon steel body
- Lamella from GRP / PVC
- Alum Dosing System
- Rapid and Slow Mixing
- Stainless Steel Mixers
- Stairs and Walking Path
- Control Panel
- Chlorination System (Liquid / Gas)
- Electro Magnetic Flowmeter

### Place of Application

Factories, Hotels, Ports and any type of residential area which is close to a surface water source.

# WATERLAND RESPONSIBILITY



Founding Partners ; Serkan Yılmaz, Özkan Aksoy

We are the leader in water treatment sector with service quality.

WATERLAND Water Treatment and Environmental Technologies



Founders Özkan Aksoy and Serkan Yılmaz have 20 years of treatment experience in private sector. Waterland was established in İstanbul in 2007. Our team consists of expert engineers , manufacturing, installation, commissioning and technical support experts. Our company provides both projecting and manufacturing phases in private sector. In many industrial branches, it is necessary to use treated water by several processes. Qualified and special water requirement of industry can be met with accurately conditioned and prepared water. With its experience of many years, Waterland provides to customers high qualified and affordable solutions by choosing most appropriate treatment processes regarding to industry type. Waterland can provide turn-key solutions for Filtration Systems, Softener Systems, Ultrafiltration Systems, Sea Water and Well Water Reverse Osmosis Systems, Anionic-Cationic Deionization Systems and EDI(Electrodeionization) Systems by projecting it with expert engineering and technical staff, in order to meet the required water quality of plants.



**Water is Our Future**  
water | wastewater | chemical



# WATERLAND WATER TREATMENT RIVER WATER TREATMENT

How do you want to use your water? Cooling water, process water, feed water, potable water, however you want to use it, we have the solution.





### Water Compact Unit (WCU)

To prepare surface water as for domestic use, chemical precipitation methods can be applied, followed by filtration. WCU employs chemical precipitation and rapid sand filtration. Raw water passes into mixing tanks done by two stages, rapid and slow mixing units and later sedimentation to settle the particles to be removed with lamellas. Treated water is stored in clean water tank and fed into the sand filters.

### Multimedia Filter

Sand and activated carbon filters are used for separation of particles greater than 20 micron and removing chlorine and organic matters causing taste, odor and color. These filters are also beneficial for protecting other treatment units from particles. Filter back-wash is controlled by the timer..

### Reverse Osmosis System

Pre-treated water flows through reverse osmosis system after cartridge filters, to protect membranes, and a high pressure pump to support the RO system. Double pass systems, operates on first stage osmosis product water entering the second reverse osmosis unit without any storage in-between to reach very low conductivity values required.

### Filter Press Unit

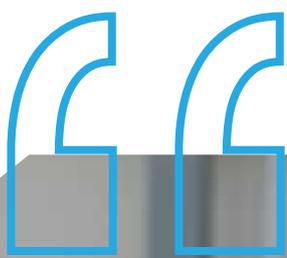
The sludge from WCU and the reject pile is collected and transferred with a pump to be dewatered by filter press process.

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# WATERLAND TECHNICAL SERVICES

We know it is not over after setting up the system. Waterland offers you comprehensive services for planning, engineering, operating, consulting and technical services before and after the start-up. In case of any unexpected problems in your system, even when the original system is not supplied by us, we will be grateful to help you for your requirements.



Waterland technical service team answers all of your technical questions.

## Operation & Maintenance

Waterland Projects can supply the complete O&M solution for your treatment works from appointment of daily operators and management of staff, to sample analysis and mechanical maintenance. This complete solution allows clients to focus on their core responsibilities while they know that the day-to-day concerns of their treatment works are being dealt with efficiently.

## Consulting

At Waterland we offer water treatment consulting services, temporary services and operator training for Water Treatment Plants. Our diverse customer experience ranges from municipalities militaries, to modification of wastewater treatment plants. We assist in all aspects of water treatment that involve meeting current or new drinking water regulations.

## Automation

Our deep understanding of water and wastewater systems, which has been hard-earned through years of industry experience, gives our engineers an advantage when it comes to designing and implementing complex control systems such as SCADA software for water or waste water treatment. Whether using our pre-tested, highly functional PLC code or your own standards, Waterland understands the equipment, environment, and regulatory requirements of water treatment, and will deliver a world class system every time. In an industry plagued by minimum value, low-bid deliveries that can cost millions in reduced efficiency and inflated total cost of ownership, it makes sense to choose professionals to get the job done right (and well) the first time.



## OUR SERVICES HİZMETLERİMİZ





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# Waterland

WATER TREATMENT & ENVIRONMENTAL TECHNOLOGIES

## HEAD OFFICE

Ferhatpaşa Mah. Karadeniz Cad.

No: 47 Ataşehir / İSTANBUL

+ 90 216 660 02 00

+ 90 216 660 02 01

+90 216 660 02 05

[www.waterland.com.tr](http://www.waterland.com.tr)

[info@waterland.com.tr](mailto:info@waterland.com.tr)



You can get detailed information about our  
branch offices on [www.waterland.com.tr](http://www.waterland.com.tr)

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