



etc.
water solutions



Water Treatment

Smart water treatment, perfect solution

About Us

Over 15 Years of Experience in Water Management

Since the beginning of our journey in 2007, we have recognized the value of water and natural resources, and we utilize the most advanced technologies and engineering knowledge to protect these values. Our expertise in water is not just a claim; it is a proven fact demonstrated by tens of thousands of projects.

Sustainability and energy efficiency are at the heart of our business. Proper water management is critically important for both environmental balance and economic efficiency.

With this awareness, we shape every one of our projects with our engineering expertise, meticulous design processes, high-quality production, and the extensive experience we have gained in the field.



Water for everyone

Whatever your needs may be, we offer professional solutions for all your water-related problems:

Engineering Support: We provide tailored engineering consultancy to find the right solution, even for the most complex projects.

Project-Design: We invest in the future by creating designs that are not only functional but also aesthetic and sustainable.

Production: We manufacture long-lasting and high-performance products using the sector's latest technologies.

Experience: With the knowledge accumulated over the years, we overcome even unexpected challenges.

Discover the power of water and explore our solutions. Let's build the future together.



Projects and Consulting

ETC TECHNOLOGY delivers results-oriented solutions across various areas, including: wastewater treatment, water recovery and reuse, drinking water treatment, process water preparation, plant automation, and water structures. Our services encompass project design, feasibility studies, cost analysis, engineering design, and field implementation.

Potable Water Treatment

These are water treatment systems established to meet the high-quality daily and continuous water demand. Our systems, whose design is carried out by our engineers, are preferred because they provide healthy and hygienic water, deliver the highest performance in terms of appearance and taste quality, and are economical.

With our after-sales technical service, we ensure that our systems are regularly monitored and operate efficiently.

ETC TECHNOLOGY, with its technical knowledge, experience, and technological purification systems, has the capability to establish treatment plants ranging from purifying the water of a single tap to meeting the needs of an entire city.



Process Water Purification

To ensure that the water we use in the industrial field achieves a specific quality suitable for the industry's process, and to maintain the continuity of this quality, there is a need for a well-thought-out design project and high-quality equipment.

ETC TECHNOLOGY addresses all these needs by providing the best engineering solutions and installs systems that produce the specific water requirements of many industries in the most economical and sustainable way.



Wastewater Treatment Facilities

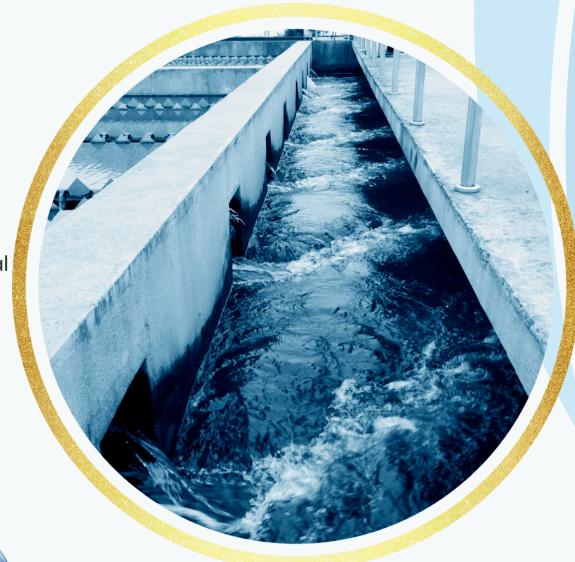
Addressing one of today's biggest challenges—wastewater treatment—ETC TECHNOLOGY, through its expert engineering staff and know-how collaborations, has developed economical and permanent solutions for many problematic treatment systems, successfully establishing itself within the sector.

Our company undertakes the turnkey construction of newly planned industrial or domestic wastewater treatment plants. Additionally, we serve our clients by designing and implementing revisions to existing wastewater treatment plants aimed at increasing energy and chemical usage efficiency and improving the effluent water quality.



Seawater Treatment Facilities

Seawater constitutes a limitless water source, especially for hotels, power plants, and municipalities located near the sea. The treatment of seawater, which has very high Total Dissolved Solids (TDS) values (ranging from 10,000 to 60,000), is made possible through high-technology products like ultrafiltration and reverse osmosis systems. Our seawater treatment systems are designed by our experienced and expert engineering staff using high-quality and technological equipment.



Water Recovery Facilities

Our company designs water reclamation systems using advanced treatment methods such as ion exchange and membrane technologies to recover and reuse effluent from treatment plants back into the process, instead of discharging it. Through this process, the outlet water from the wastewater treatment plant is recovered and returned to the operational economy as cooling water, irrigation water, fire water, process water, and boiler feed water.



Conventional Filtration Technologies

This involves filtering water by passing it through pressurized and open vessels containing filtration minerals. Sand filters provide the physical removal of particulate pollutants like suspended solids and turbidity down to 20 microns, while activated carbon filters are used for the adsorption and removal of unwanted color, odor, and organic substances in the water.

The operation and backwashing of these filters are fully automatic and easy to manage. They are utilized in applications such as treating well water, surface water, industrial process water, and chemically dosed water, as well as serving as a pre-treatment for Reverse Osmosis (RO) systems.

Ion Exchangers

An Ion Exchanger (IOX), with the aid of the resins it contains, facilitates a reversible chemical reaction where ions attached to immobile solid particles are exchanged with dissolved ions in the water. Depending on the selected ion exchange resin and the regenerant, particulate matter and unwanted ions are exchanged and removed. Two types of resin are generally used in the system as ion exchanger resins: separate anionic and cationic resins.

Ion exchangers are generally used for water purification in the beverage and food, metal processing, chemical and petrochemical, pharmaceutical, and sugar and sweetener industries, as well as for purifying groundwater and drinking water. It is also the method used to remove hardness from water.

Reverse Osmosis (RO)

Reverse Osmosis (RO) is a membrane process that purifies water by applying force to the water through a semi-permeable membrane. Generally, RO membranes have pore sizes of 0.0001 microns and possess a high capacity for the removal of parameters such as dissolved solids, conductivity, chloride, metal and heavy metal ions, and hardness from water.

Reverse Osmosis is also used to obtain fresh water from seawater in areas where drinking water is scarce. It is a water treatment technology with a wide range of applications, producing drinking, process, and utility water from groundwater, surface water, and well water.





Membrane Bioreactor (MBR)

The Membrane Bioreactor (MBR) is a compact disposal system formed by the combination of a biological degradation step and a membrane separation step. This combination offers very significant advantages, such as high biomass concentration and low sludge transfer, in contrast to conventional activated sludge systems. Its application areas include: the treatment of process water from food and beverage, dairy, textile, and pharmaceutical industries with high Chemical Oxygen Demand (COD), and the pre-treatment of landfill leachates.

Ultrafiltration

The Ultrafiltration (UF) process is an excellent filtration technology used specifically for the purification of surface and groundwater. UF membranes generally have pore sizes between 0.01 and 0.10 μm . The hollow-fiber membrane retains parameters such as turbidity, bacteria, viruses, colloids, and silt. Ultrafiltration is a pressure-driven membrane separation process that can separate particulate matter from water.

The system's backwashing and periodic cleaning operations are carried out within the plant automation system, ensuring the system runs without the need for manual personnel. Application areas include: drinking water, groundwater, surface water, chemical/petrochemical wastewater recovery and reuse, and as a pre-treatment for Reverse Osmosis systems.

Ultraviolet Water Disinfection System

Disinfection with Ultraviolet (UV) Systems is the process of inactivating microorganisms without adding any chemicals or oxidants to the water. A measured dose of UV light is applied to the water entering the device via an ultraviolet lamp placed inside a tube-like glass sleeve. These ultraviolet rays destroy the DNA structure of microorganisms, rendering them inactive. In this way, an average disinfection efficiency of 99.9% is achieved.



Ultra Pure Water Systems

In some facilities, process water requires highly sensitive parameter values, such as low conductivity (around zero point one micro Siemens per centimeter). ETC TECHNOLOGY provides water of this quality to processes using EDI (Electrodeionization) and resin-based ion exchange systems, which it designs and manufactures.



Chemical Dosing Systems

Chemical dosing units are used to dose a wide variety of chemicals in many fields. Generally, the main purpose of dosing units used in the treatment sector is to bring the water quality to the desired level. Dosing systems, which are widely used in treatment systems for dosing chemicals such as chlorine, antiscalants, acid, caustic, sodium metabisulfite, and similar substances, are designed either within special leak-proof cabinets or as skids and are coupled to the main systems.



Compact Units

These are systems where a group of components are assembled as a single unit on a chassis. These systems are preferred for their ease of installation, portability, small footprint, and flexibility. Their engineering design, layout, and manufacturing are carried out by our company, and they are offered to the end-user by ETC TECHNOLOGY, utilized in RO, UF, EDI, filtration units, and dosing systems.





Electrodeionization

It is the technology used to obtain ultra-pure water. The working principle is based on the creation of an electric current, causing the positively charged ions in the raw water to exchange with negatively charged ions, polarizing and collecting around the electrodes. The positive and negative ions then combine to yield pure water.

The biggest advantage of the EDI system is that its operation is easy and continuous. The Electrodeionization method continuously produces water with a purity of less than 1 micro Siemens per centimeter at a recovery rate of approximately 98 percent. It is particularly used in power plants, boiler feed water, and for the high-level purification of industrial process water.



Mixed Bed

The mixed bed is a deionization system that contains two types of resin—anionic and cationic—combined in a single unit within demineralization systems. The conductivity of the water can be reduced down to a value of 2 micro Siemens per centimeter. The cationic resin removes positive ions in the water, while the anionic resin removes negative ions. Acid is used for the regeneration of the cationic resin, and caustic is used for the regeneration of the anionic resin.

It is used in the food, metal, and plating sectors, in power turbines, and for the purification of condensate water. Additionally, mixed bed systems, which are used for heavy metal and boron adsorption, as well as biochemical and organic substance removal, are widely utilized in industries requiring high-purity water.





Sectors We Serve

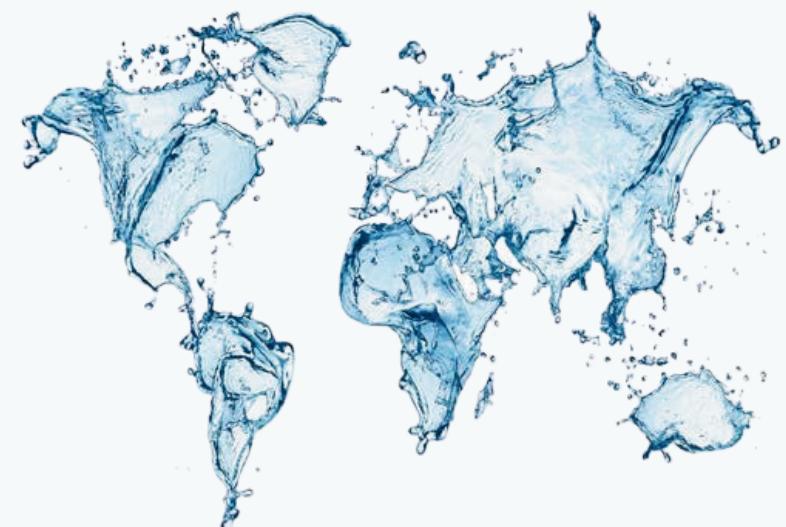
Water is an indispensable substance for industries as much as it is for living organisms. Water may be needed in every branch of industry as a solvent, feed water, washing water, or directly as a raw material. Hidrosis strives to manage the water cycle on behalf of its domestic and industrial clients, working to ensure the protection and optimization of all water resources. ETC TECHNOLOGY develops and implements technological solutions for water preparation, wastewater treatment, and the recovery of wastewater in many industries where water is used.

- Energy
- Petrochemicals
- Electronics
- Pharmaceuticals and Healthcare
- Textile
- Biofuel and Gas
- Iron and Steel
- Paper
- Mining
- Food
- Beverage
- Cosmetics
- Automotive
- Chemicals
- Tourism
- Paint
- Construction
- Ceramics
- Municipal Wastewater Treatment
- Municipal Drinking Water Treatment
- Metal



Our company, leveraging the experience gained in the sector over many years, was established in Istanbul in 2007. It registered the brand name ETC: Water Solutions and provides services with these branded products.

ETC TECHNOLOGY, whose mission is to make a difference with its creative solutions and services in the field of water treatment and technologies, and to have a voice in both domestic and international markets, has set a goal to reach all industry groups, public administrations, and everyone who drinks, uses, or comes into contact with water, through its experience, wide product range, quality technical service, and engineering services. Our company, which increases its references day by day without compromising on quality, is growing with solid steps and securing its place in the sector.





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