MULTICLAIR

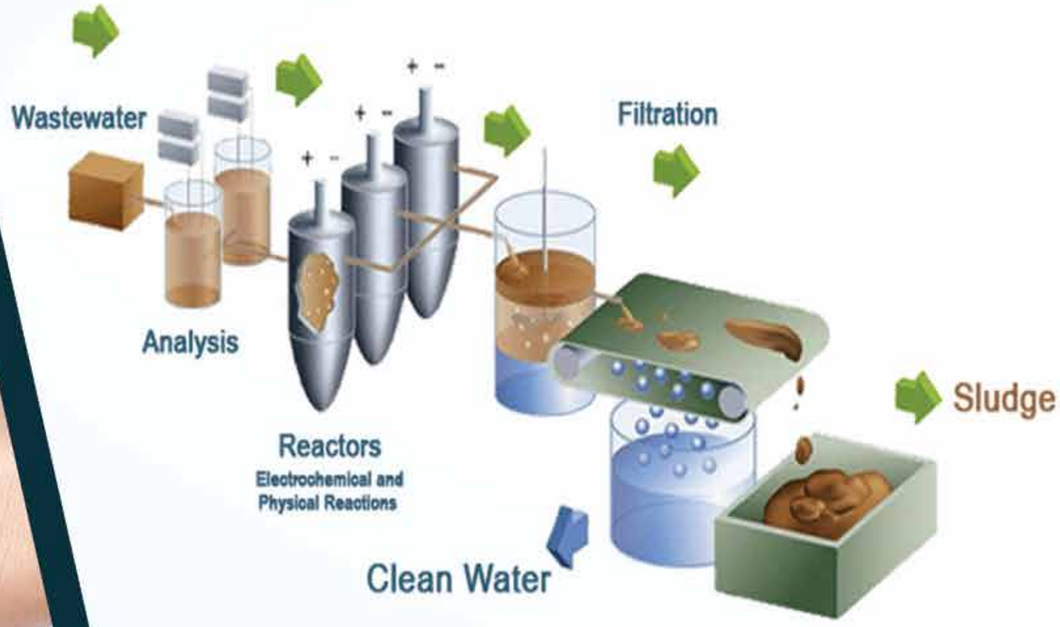
MULTICLAIR TREATMENT SYSTEMS LTD

FOR A CLEANER WORLD

THE MOST SPECIAL ACT OF KINDNESS FOR CYCLE OF LIFE

We are here to return the inspiration from the nature itself and develop economic, functional and technological solutions for cycle of life.

MULTICLAIR SYSTEM DIAGRAM



01
ABOUT US

Our firm was founded in January 2006, to produce wastewater treatment systems and environmental technologies.

Multiclair produces and sells wastewater treatment systems that have their basis in the principle of “Electroflocculation”. Our firm; with a strong emphasis on following changing technologies and related theories, uses latest wastewater treatment technology to treat wastewater with low amounts of waste and any type of wastewater with economic and easy operation conditions, especially the ones that cannot be treated with classical treatment methods and if needed can provide reuse of the treated water.

04
MISSION

Multiclair; that has the intention to create projects, production, turn-key establishment, equipment production and selling of Wastewater Treatment Systems and Environment Technologies, aims to return the inspiration of nature and provide smart, economic, functional and technological solutions for cycle of life.

Söğüt WWTP

05
VISION

Multiclair has the vision of eliminating all pollutant factors that endanger all humanity and nature and aims to share produced solution methods on a worldwide scale, improve these technologies every day and invent solutions that will enable the clients to achieve maximum time and cost profitability.

BALANCE OF NATURE

When the fact that life sources are the only things that cannot be reproduced is accepted, it is obvious that all the pollutant factors that endanger human life should be eliminated.

When the fact that life sources are the only things that cannot be reproduced is accepted, it is obvious that all the pollutant factors that endanger human life should be eliminated.

Ayvalık WWTP

Söğüt WWTP

Gölpazarı WWTP

TECHNOLOGY OF MULTICLAIR

What is Multiclair Treatment System?

Multiclair Treatment System is a new and innovative treatment technology that is based on electro-flocculation (electro-coagulation) principle.

With Multiclair Treatment System, it is possible to have different qualities of water discharge or reuse them, consistent with EU Regulations and Ministry of Environment and Urbanism Water Protection Regulation and depending on client's demand. Our system treats and reuses domestic and industrial wastewater by using (E&E) process. With physical, biological and chemical treatment processes, the system is capable of treating nitrogen and phosphorus in one step. Since the system works in a closed circuit, there are no odor problems within and around the treatment plant.

After treatment process, the system produces low amounts of sludge with no danger to environment. The establishment of the treatment plant takes little time compared to alternative (classical, packet, biological, chemical, membrane, etc.) treatment systems and requires less investment and operation costs. Treatment plants that are established based on current flow rate, can be increased in capacity with extra treatment modules within the same establishment without requiring additional construction.

ADVANTAGES OF MULTICLAIR

- No odor problems
- No requirement for big construction spaces
- Provision of the most economic treatment processes consistent with Ministry of Environment and Urbanism's Water Pollution Control Regulation and EU Environmental Pollution regulations about discharge of treated water into receiving environment
- Ability to recycle the treated water depending on the purpose of use
- Acquisition of lower amounts of sludge that can separate from water easier
- Establishment of the plant in short time
- Low investment, operation and maintenance cost
- 10 to 100 times faster treatment time compared to traditional plants with sedimentation principle
- Effective treatment of wastewater that may contain high amounts of heavy metals, oil-grease, suspended solid material, dissolved pollutant, bacteria-virus and complex organic material
- Easy use and operation, full automated and user friendly system and ability to find solutions to client needs with a web based software
- Ability to change the treatment capacity due to flexible system
- Mobile service

10
FUNCTIONAL TECHNOLOGY

Our system covering less space in volume and quick building and construction time and low investment and operation costs makes our company stand out and surpass other wastewater treatment systems.

Our technical staff will always provide detailed analysis and solutions for your system needs to make sure our clients will receive high quality and technological support.

Söğüt WWTP

Keşan WWTP

11

WHAT IS ELECTROFLOCCULATION / ELECTROCOAGULATION (E&E) PROCESS?

In sort terms, (E&E) process is a method of dispatching pollutants from water and wastewater using physico-chemical methods. (E&E) process includes complex physical and chemical steps such as, redox reactions, absorption, particulate entrapment, coagulation and flocculation. During the use of (E&E) process, there is no need for using any additional chemical or biological material. Within an electrolytic reactor cell, controlled physico-chemical reactions, physical, biological, chemical treatment and removal of nitrogen and phosphorus is provided in the same step.

- Electroflocculation (electrocoagulation) process is a combination of oxidation, flocculation and flotation principles.
- In the simplest way, and electroflocculation (electrocoagulation) reactor is an electrolytic cell with an anode and a cathode.
- During electrolysis, on anode, metal cation (aluminum or iron) is produced while on cathode, hydrogen gas is produced.
- Settled aluminum ions flocculate most of the oil, heavy metals and organic materials.
- Meanwhile, hydrogen gas bubbles help floating the flocculated sludge where it is filtered out of the water within a flotation tank.

DOMESTIC WASTEWATER TREATMENT PLANTS

ADVANCED TREATMENT LEVELS: Our system can treat urban wastewater with the latest technology. There are no odor problems or occurance of dangerous sludge that must be removed immediately.

LOW SPACE REQUIREMENT: Compared to alternative (classical, packet, biological, chemical, membrane, etc.) treatment methods, our system requires 90% less establishment area.

INVESTMENT COST: Compared to alternative (classical, packet, biological, chemical, membrane, etc.) treatment methods, our system requires 30–40% less investment cost.

OPERATION COST: Compared to alternative (classical, packet, biological, chemical, membrane, etc.) treatment methods, our system requires 40–50% less operation cost. Unlike traditional treatment plants, the need for staff is less. For each operation shift, one personnel is sufficient.

EXAMPLES FOR OPERATION COSTS:
Energy use for the treatment of 1 m^3 wastewater: 0.30–0.50 kw
Cost of necessary consumables for the treatment of 1 m^3 wastewater: 0.04 – TL

INDUSTRIAL WASTEWATER TREATMENT PLANTS

Industrial wastewater can be defined as wastewater with high organic and inorganic waste, waste with heavy metals, chrome, toxins, bacteria and wastewater produced by leather industry, textile industry, paper factories and ships and docks. With Multiclair Wastewater Treatment System that is based on (E&E) process, industrial wastewater can be treated in consistence with EU industrial wastewater pollution regulations.

COLOR AND POLLUTION REMOVAL IN TEXTILE INDUSTRY

(E&E) process is the only system that can remove color from wastewater of textile industry with high efficiency, sustainability and low cost. With Multiclair wastewater treatment system that uses (E&E) process, it is possible to remove industrial waste and color from industrial wastewater with regards to EU regulations.

16

MOBILE SYSTEMS AND PRACTICAL SOLUTIONS

With Multiclair Wastewater Treatment System that uses (E&E) process, it is possible to establish fast and effective wastewater treatment plants in small areas. We can build wastewater treatment systems with easy operation in mobile containers for villages, neighborhoods, small scale settlement areas (universities, dormitories, military settlements, sites, hospitals, shopping malls etc). For example, within a standard articulated lorry, it is possible to build a treatment system that can serve for up to 10.000 population and this system can also serve as a mobile system.

Such systems for 10.000 population require 20 m^2 space in total and upon desire of the client, can be implemented on small trucks.

As Multiclair, we value testing and R&D studies. With a fully established mobile system, we test wastewater treatment for risky waste products and run studies for their treatment and reuse.

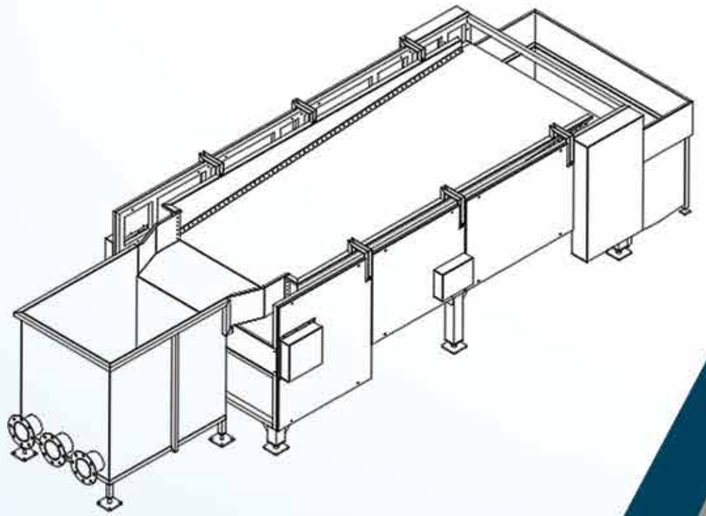
Our R&D department continuously works on solutions to improve our treated water discharge methods, lowering investment and operation costs.

BAND FILTERS

DAF units that are stated at the entrance of treatment plants are ideal filtration equipment that can filter and remove flocculated sludge produced during coagulation and flocculation processes. These units provide easy to operate and control, long lasting solutions.

It is quite important to remove solid waste from water to ensure a smooth operation for treatment plants, pump stations and pipelines as well as to protect the long lasting quality of mechanical parts. Our system provides a more developed filtration system to remove such wastes that cannot be harvested with rough-thin traditional grids.

Band filters can be produced to run separately at the entrance and exit parts of the system as a separate unit or to be used in canal type entrances.



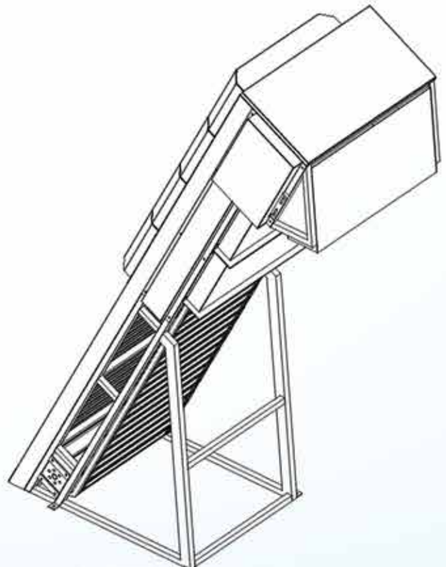
ROUGH–THIN (COMPACT) GRID

To ensure that treatment plants, pumping stations and pipelines are running smoothly with high efficiency, it is very important to select right mechanical grid systems and producing them correctly.

These grids can be used for any size of domestic and industrial wastewater treatment systems, power stations and use/irrigation purpose establishments with the purpose of separating rough particles that are bigger than 3mm.

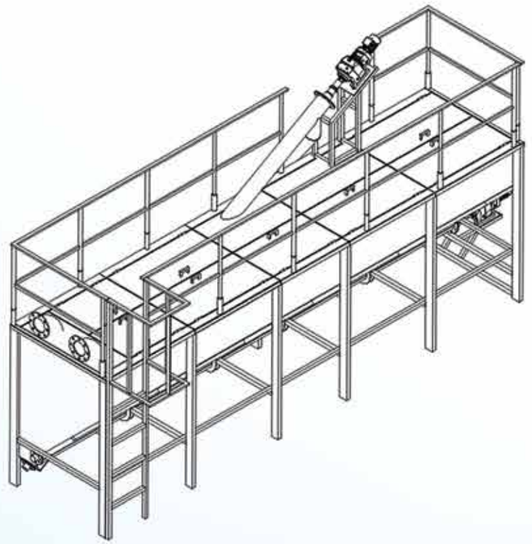
This grid is able to separate particles that are bigger than 3 mm. with its compact and rake classifier quality that has been produced to remove solid material in wastewater treatment systems. Compact linear grid, with its chained structure and cleaning brushes, is protected against blockages and getting stuck.

Direct mechanical grid systems can be produced for different flow rates and pollution levels. They can also work in any depth without having to focus on canal and pipeline connection level height.



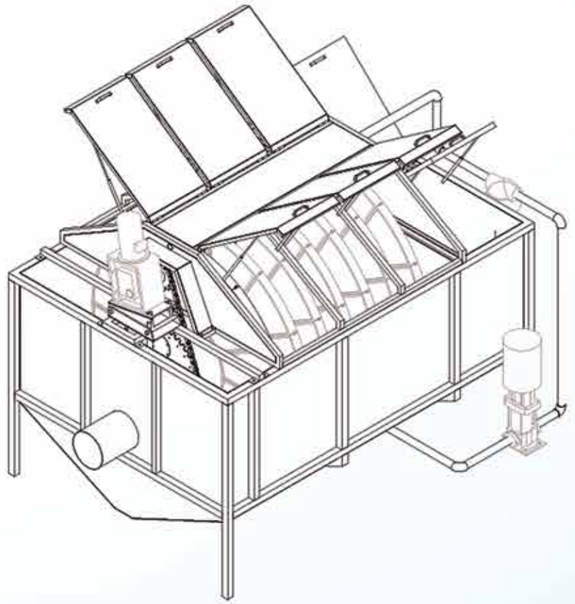
SAND HOLDER

Direct mechanical grids that can be implemented on canal or pipe lines can work depending on the water level or time limit relay. Solid particles that are bigger than 3 mm which are in the wastewater are carried on top of the grid with the help of rakes. While being carried, these particles run through the showering system to be cleansed and on top of the grid they are being removed with the help of gravity, reverse raking and brush to keep the grid clean. The particles then, collected within a collecting container.



DISK FILTER

This product is developed to provide micron level filtration during filtration of wastewater with the purpose of increasing the quality of end product. The filters that work with gravity flow provide sensitive filtration with very low costs.



Refik Belendir Street No: 114/1
Y. Ayrancı / Ankara / Turkey
T: +90 (312) 427 34 18 F: +90 (312) 427 34 18
info@multiclair.com.tr • www.multiclair.com.tr

MULTICLAIR
MULTICLAIR TREATMENT SYSTEMS LTD