



Pars Goon Consulting Group

Execution Design Advice

Water, Wastewater, Waste and the Environment



Introducing Pars Goon Consulting Group

Pars Goon Consulting Group, with the benefit of experienced experts, designs and constructs water, wastewater treatment plants and food industry packaging machine along with water, wastewater treatment and environmental studies.

Group goals

- * Relying on innovation, science, technical knowledge and experience
- * Creating scientific and research infrastructures with the aim of developing and expanding industrial activities
- * The use of new technologies in the design, supply and support of water and wastewater industries
- * Provide advice in the field of environmental studies

Capabilities

- * Consulting, design, supply and implementation of environmental treatment systems
- * Consulting, design and production of industrial wastewater treatment systems based on EC-F
- * Consulting and implementation of large projects in the fields of water treatment, marine desalination and municipal wastewater treatment.
- * Partnership with foreign and domestic consulting engineers in conducting studies related to developing environmental awareness, planning and management, as well as environmental impact assessment of development projects

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EC-F (Electric Coagulation Filtering)

Most wastewater treatment processes are performed by aerobic and anaerobic methods during biological operations. These systems with their extensive equipment impose additional costs on the consumer. The need for a permanent operator, high sensitivity to the temperature and acidity level are some other deficiencies of the method as well.

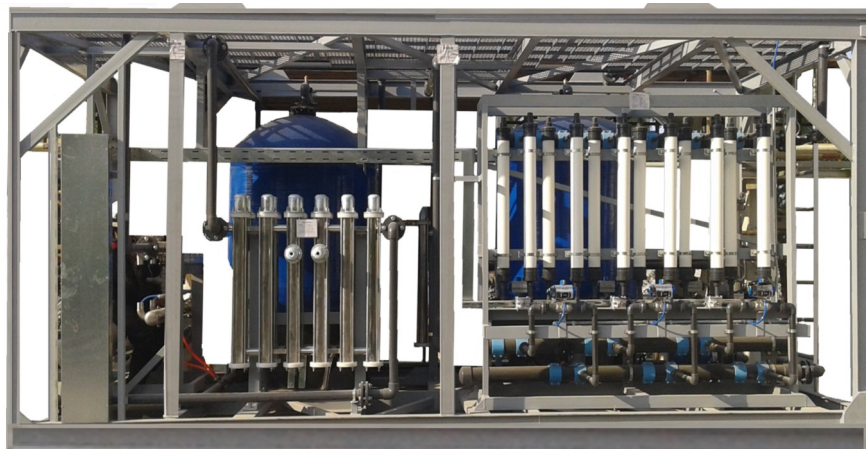
The usage of ECF system

EC-F device has the ability of electrochemical coagulation of the effluent which causes the reduction of COD and BOD. It also removes heavy metals, TSS, turbidity as well as water chemicals and soil contaminants, paint, fluorine and arsenic.

EC-F system is suitable for treatment process of water, and wastewater of various industries such as chemical producers (resins, adhesives, textiles and dyeing), slaughterhouses and producers of meat, protein, dairy products, starch, metal washing machine, carpet washing, petrochemicals, etc.

EC-F System Advantages

- * Cost-benefit investment in construction of system
- * Low operation cost per cubic meter of wastewater
- * The least space used to build a treatment plant which is one-fifth of the biological method
- * No unpleasant odor
- * Continuous purification process
- * Easy operation by specialist operators
- * High efficiency in removing organic and chemical substances
- * High system shockability against changes such as pH, concentration of pollutants and some changes in wastewater input to the treatment plant
- * The EC-F machine has eliminated most of the processing problems of industrial and sanitary wastewater treatment processes and has become a suitable replacement for the massive and bulky treatment plant system.



EDR (Electro Dialysis Reactors)

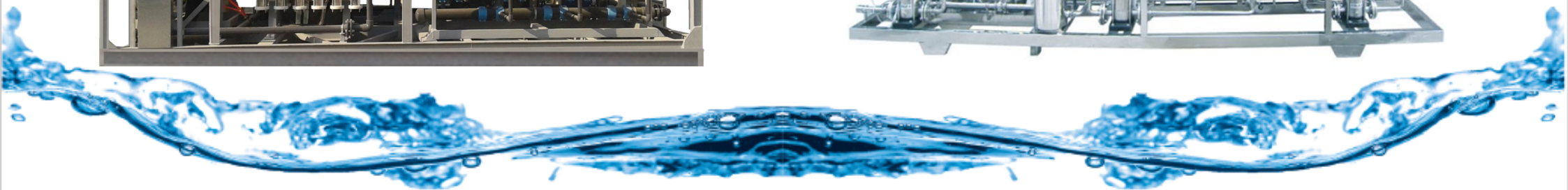
EDR system is a combination of the ED and RO systems. In this method, the separation of solutes from water is performed EDR device, with its unique design by using the latest technologies based on electrochemical coagulation, removes water-soluble salts and settles them in form of sludge and then removes it from the system.

The usage of EDR system

- * Industrial water supply for boilers, cooling towers and refrigeration systems
- * Desalination of brackish water for drinking, industrial and agriculture
- * Providing water required for oil, gas and petrochemical industries and power plants
- * Providing suitable water for various products in food, beverage and cosmetics industries
- * Final treatment of industrial effluents
- * Providing water required in animal husbandry and aquaculture
- * Providing water needed for swimming pools, ponds, water features and water parks

Advantages of EDR water purification system

- * Water desalination efficiency of about 90%
- * Reduction of wastewater production
- * Reduction of energy consumption in the water desalination process
- * Reduction of device depreciation in the process of water treatment
- * Low system price compared to RO method
- * Low current costs of the device in comparison with RO method
- * Low-cost fresh water production than RO method



HERO (High Efficiency RO Reverse Osmosis)

High Efficiency Reverse Osmosis (HERO) is a reverse osmosis technology specially designed to treat high silica and difficult to treat wastewater. By effectively preventing membrane fouling or scaling, the high efficiency reverse osmosis process offers the end user higher recoveries as well as significant operational benefits.

HERO is Perfect for

High Silica Water
Cooling Tower Blowdown
Tertiary Treated Effluent (Sewage) High TOC / Biologically Active Water

The HERO technology runs on common chemical feed requirements allowing you to cut the cost of expensive cleaning chemicals typically required.

Eliminate Redundancy

Due to HERO's high pH operating environment, it is in a "continuous cleaning mode" thus eliminating redundancies in capital equipment to compensate for cleaning downtime

Higher recovery

Since the HERO system allows increased water recovery, the cost per gallon for pure water production is reduced.

Benefits of HERO

- * High Recovery
- * High Salt Rejection
- * High Flux
- * Reduced Fouling
- * Lower Operating Costs
- * Reduced Maintenance



ECR (Electrical Conductivity Reducer)

The ECR device reduces the salinity or EC of water by electromagnetic electrolysis energy.

Usage of ECR device

- * Desalination and EC reduction of marine saline waters
- * Desalination and reduction of EC of brackish waters
- * Desalination of industrial effluents
- * Desalination of aquaculture farms
- * Reducing the salinity of water entering the RO system

Advantages of ECR system

The ECR system is not sensitive to pretreatment and practically does not require pre-treatment

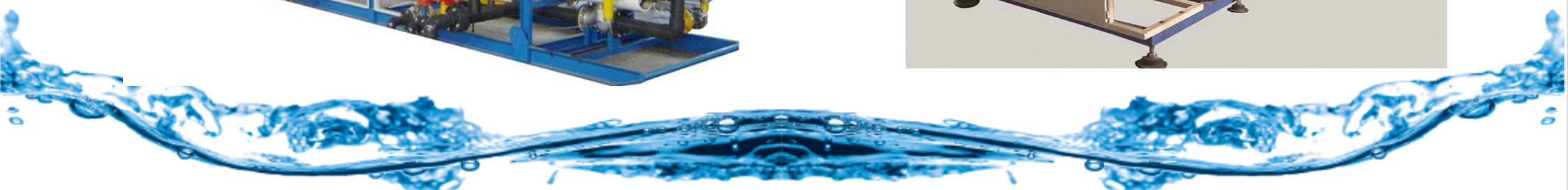
The ECR system has an efficiency of 90-95% for saline water

Reduces water consumption

Reduces the cost of wastewater disposal

The ECR system is not attacked by bacteria because it is not based on membrane and filtration, and in some cases, it can kill parasites and bacteria.

The ECR system can operate at high temperatures without adding a solution or special conditions.



MCR (Microbial Count Reducer)

MCR device with high capacities has the ability to disinfect drinking water and wastewater. Pulsed electric fields can kill micro-organisms.

Advantages of MCR device

- * Reduction of water microbial load and coliform
- * High discharge capacity (up to 7000 liters per second)
- * Equipped with advanced monitoring and automation system
- * No changes in heat and pH of water
- * Low energy consumption (10 KW for 100 liters of water)
- * No need for a specialized operator
- * No need for construction structures
- * Reasonable price of the device compared to other available methods
- * Ability to install a variety of sensors to measure the parameters of water
- * Elegance in design, dimension, low user cost and portability
- * No side effects in compared by other methods such as chlorination and...

Applications of MCR device

- * Livestock and poultry slaughterhouses
- * Fish and shrimp farms and ponds
- * Urban Water treatment plants
- * Urban drinking water
- * And some other cases



RO (Reverse Osmosis)

Reverse Osmosis is one of the most common methods for water desalination, separation of organic and toxic substances from industrial waste water. This method is based on mass transfer using semipermeable membrane and hydrostatic pressure.

Application of reverse osmosis systems:

- * Water supply required in boilers, cooling towers and all heating and cooling systems
- * DM water supply for biological and pharmaceutical use according to valid standards
- * Salt and brackish water desalination
- * Water supply required in oil, gas, petrochemical and power plants
- * Water supply for various products in the food, beverage and cosmetics industries
- * Final treatment of industrial wastewater treatment
- * Water supply for agricultural and greenhouse production
- * Water supply for hospital dialysis machines

Advantages of using RO

- * High quality production with valid standards
- * Continuous production of fresh water
- * Elimination of bacteria and viruses
- * Removal of nitrates, turbidity and water soluble solids
- * Easy operation and fully automatic control

