Sepahan Palayesh

Technical & Engineering Company

Design and manufacture of industrial and seawater desalination systems, wastewater treatment systems, water softeners, sand and carbon filters, and supply of chemicals, silica, activated carbon and related equipment.

Contact Information

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Company Introduction

Sepahan Palayesh was established based on the experience of its senior experts in consulting, design and construction of water and wastewater treatment systems.
The company also supplies required equipment and provides afternsales services and technical support.

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RO APPLICATIONS

- Production of drinking water from saline sources
- Production of boiler feed water and cooling systems
- Production of agricultural and greenhouse water
- Production of process water for factories, dialysis water, pharmaceutical applications
- Industrial wastewater reuse

Industrial RO Desalination

Reverse Osmosis (RO) forces saline water through seminpermeable membranes to remove dissolved salts and impurities.

Advantages:

- Continuous operation
- High efficiency
- Simple operation
- Multiple production capacities
- Low maintenance costs

Seawater Desalination Systems

Suitable for seawater and high salinity sources. Used in ships, coastal facilities, islands and industrial sites to produce high quality drinking water.

Seawater Desalination Systems

Explanation of dissolved salts (TDS) and classification of water according to salinity levels:

Fresh water:	Less than 1000
Brackish water:	Between 1000 and 3000
Extremely salty water:	Between 10,000 and 35,000
Ocean water:	More than 35000

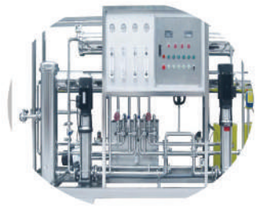
Resin Water Softeners

Removal of calcium and magnesium hardness from water.

Advantages

- Reduced energy consumption
- Lower maintenance costs
- Improved heat transfer and Higher system efficiency

Industrial Distilled Water Systems



Production of ultranpure water using double RO systems and deionization (DI) units. Applications include steel plants, pharmaceuticals, laboratories, electronics washing and plating processes.

Industrial

Wastewater Treatment

Industrial wastewater may contain organic, mineral and toxic contaminants. Key parameters include BOD (Biochemical Oxygen Demand) and COD (Chemical Oxygen Demand).

Coagulation and Flocculation

Chemical coagulants and flocculants are used to aggregate fine particles into larger settleable flocs.
Common chemicals include ferric chloride, PAC and polymer aids.

Wastewater Overview

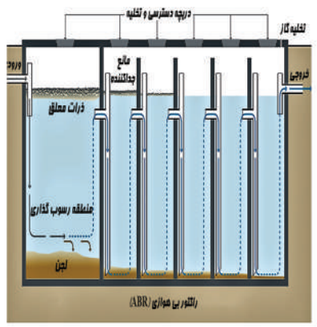
Wastewater is water that has been used and contaminated through washing, sanitary use, runoff and industrial activities. Treatment aims to reduce pollutants to acceptable levels.

Human wastewater treatment

Includes activated sludge aeration systems, Moving Bed Biofilm Reactor (MBBR) processes and anaerobic treatment methods for removal of organic pollutants and nutrients.

Activated sludge aeration systems

MMBR (Moving bed biofilm reactor)



Biological Wastewater Treatment

Human & sanitary wastewater

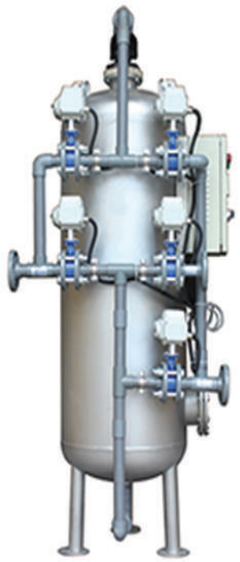
Wastewater is water that is no longer suitable for use, in other words, water that can be returned to the environment. Wastewater or effluent is formed by factors such as bathing, toilet use, runoff, and rainwater.

Sand Filters

Used for removal of suspended solids, pretreatment before membrane systems, drinking water production, swimming pools and iron removal. Available in steel and fiberglass vessels.

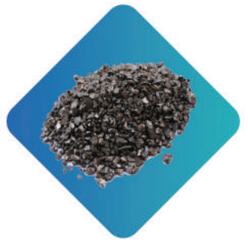
Iron tank

Fiberglass tank

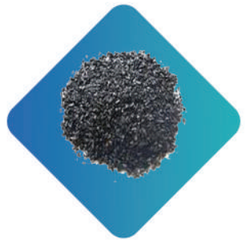


Steel tank

Minerals



Anthracite



Carbon

Silica

Water Treatment Chemicals

Antiscalants, membrane cleaning chemicals, boiler scale and corrosion inhibitors, and coagulants used in water and wastewater treatment systems.

Antiascalant

Membrane washing materials

Boiler scale and corrosion inhibitors

Coagulants