
MBR SERVICES PRESENTATION



NO JOKE WITH WATER!!

Even the most advanced technologies, if not served with suitable engineering can easily turn into idle investments.

Since 2003 in and abroad Turkey the trust through completed plants with **100% performance**, we are challenging and fighting against **wasting resources**.



ABOUT US

- **MBR**, is founded in 2003, to represent new technologies and enable their implementation in the environmental sector.
- Advanced technologic solutions must be supported with appropriate engineering. Structuring is designed to avoid wasting resources from planning to operation.
- **MBR**, is exclusively cooperating with **MBR Process Design Ltd. UK** since many years at successful engineering services.
- **MBR** has been sharing all her technological expertise and know how with Public authorities free of any charge.



IMPORTANCE OF TREATMENT IS AS CLEAR AS WATER!!

With this understanding and with the experience of numerous designs from most advanced to conventional systems since 2003, we serve our customers not only at new plant investments but in all phases from planning the investment to final operation.



WATER TREATMENT PLANTS

MBR undertakes domestic, commercial and industrial water treatment systems' design, installation and after sale services in any scale.

- Filtration systems
- Water softening systems
- Reverse osmosis systems
- Membrane treatment
- MBBR systems
- Deionisation systems
- UV disinfection systems
- Chemical dosing systems



All the related equipments and spares are available at **MBR** portfolio.



WATER TREATMENT PLANTS

Food, beverages, textile, cosmetics, pharmaceutical, electronics, energy, chemical, and automotive sectors are some of the industrial sectors that we work for design, production and installation of the treatment systems, which will provide the required process water.



DOMESTIC WASTEWATER TREATMENT SYSTEMS

The best solution for the treatment of domestic wastewater is to apply biological treatment methods.

We supply **turn key plants** for cities and satellite towns and for smaller capacities **package plants** together with all the necessary mechanical and electrical equipment.



DOMESTIC WASTEWATER TREATMENT SYSTEMS

Biological treatment, is a process using bacteria and microorganisms to assimilate the contaminants in the wastewater.

Treated water is discharged to receiving environment through disinfection system or as with clients requirement, treated water is passed through sand filter and discharged with hydrophore to use for **irrigation**.

Biological wastewater systems is typically composed of pumps, diffusers, blowers, dosing pumps and electronic automation systems.

The design of biological systems is structured on the wastewater volume, specifications, operational and capital costs. Accordingly decision for making a concrete system or a package system is given at the design phase.



MBR-WWPP

MBR systems branded as **MBR-WWPP** continue operating **long years with high performance** with automation developed by our own engineers. **Low energy** consumption keeps us one step ahead of our competitors.

MBR-WWPP systems; is a **mobile unit** designed to serve 10 to 5000 population equivalent containing all the equipment within. Also with paralel operation can treat required wastewater.



MBR-WWPP

Areas of operation and specifications:

- ❑ **MBR-WWPP** systems operate without any problem at hotels, motels, camps, satellite towns, military bases, schools, factories, towns and villages.
- ❑ **MBR-WWPP** systems are fully automatic, odorless and noiseless.
- ❑ **MBR-WWPP** systems have a very small footage.
- ❑ **MBR-WWPP** systems' treated effluent can be used to irrigate directly fruits and vegetables.



OUR SERVICES – Planning Phase

- ❑ At new investments, conceptual engineering, optimum planning to avoid resource wasting.
- ❑ For existing projects, problem and solution identification, tender documents and design preparation.
- ❑ Specifying financial options, project preparation and financial reporting.
- ❑ Reporting and studies to apply and provide grant/loan from EU, EBRD and similar international organisations and TR Ministry of Environment.
- ❑ Meeting with authorities and preparing reports.



OUR SERVICES – Pre Operation

- ❑ Evaluating the offers for the project,
- ❑ Control of the supplied process equipment,
- ❑ Construction, installation control or supervision,
- ❑ If required supply process equipment,
- ❑ Control of the selected equipment for power consumption and environmental legislation.



OUR SERVICES - Commissioning

- ❑ Commissioning of the project or supervision and control of commissioning,
- ❑ Evaluating the results for meeting the environmental legislations parameters,
- ❑ If external financement is used, auditing the usage, writing the reports and/or supervising and editing the reports.



OUR SERVICES - Operation

- ❑ Managing the operation,
- ❑ Control and supervision of the operation,
- ❑ R&D and retrofit works,
- ❑ Renewal of the existing equipment,
- ❑ Optimisation of the project input.



OUR SERVICES - Water/Wastewater Management Strategy Consultancy

- With the decrease of collected water in the water basins through global heating, and also with population increases supply of water, especially clean water, is a serious issue. It is substantially important to preserve our water basins, preventing the pollution through untreated wastewater and re-use the wastewater as much as possible to avoid desertification.
- Consequently planning water/waste management strategies of our corporations,
- Studies to increase efficiency and quality in water usage,
- Project works at wastewater management leading the sector,
- Waste and wastewater characterisation studies for re-use studies,
- Preparation of long term waste management plans.



Sample Projects

- Organised Industrial Zones:
 - - Amasya Merzifon OIZ: Engineering and design the wastewater treatment and ancillary systems, preparing the technical and administrative tender documents.
 - - İzmir Tekeli OIZ: Supplying process design and equipment, supervision of commissioning.

- Industrial Plants:
 - - Romanya Banvit factory: Supply of process design and equipment and supervision of commissioning.

- Touristic Plants:
 - - Hilton Hotels: Grey water re-use process design, supply, and supervision of installation and commissioning.

- Municipal Wastewater Treatment and Re-use Systems:
 - - Bodrum Konacık re-use plant: Supply of process design and equipment, planning, supervision of installation, commissioning and operation.



First Full Scale Municipal Application in Turkey – Bodrum Konacik



Design Requirements

Influent average loadings:

BOD	375 mg/l
COD	800 mg/l
TKN	45 mg/l
NH ₃ – N	40 mg/l
SS	300 mg/l
TDS	5,000 mg/l

Effluent standards

BOD	5 mg/l
Total N	10 mg/l
Total P	1 mg/l
NH ₃ – N	2 mg/l
SS	5 mg/l

Plant Data

Maximum daily volume	3,200 m ³ /d
Average Daily flow	1,600 m ³ /d
Peak flow	4,800 l/sec
MLSS membrane tank	12,500 mg/l
MLSS aeration tank	4,170 mg/l
Membrane units	8 x EK400
Membrane surface area	2,560 m ²
Sludge age	25 days
Sludge produced	19 m ³ /d

Current performance

COD	<60 mg/l
BOD	<5 mg/l
Ammonia	<5 mg/l
TKN	<7 mg/l

Mixed Industrial Organised Zone Application - İzmir Tekeli Organised Industrial Wastewater Treatment Plant 8000 m³/d



Design Requirements

Influent average loadings:

BOD	1,200 mg/l
COD	2,000 mg/l
TKN	61 mg/l
NH ₃ - N	55 mg/l
SS	450 mg/l
TDS	5,000 mg/l

Effluent standards

BOD	30 mg/l
Total N	15 mg/l
Total P	1 mg/l
NH ₃ - N	1 mg/l
SS	10 mg/l

Plant Data – stage 1

Maximum daily volume	2,200 m ³ /d
Average Daily flow	2,000 m ³ /d
Peak flow	69 l/sec
MLSS membrane tank	15,000 mg/l
MLSS aeration tank	11,250 mg/l
Membrane units	10 x EK400
Membrane surface area	3,200 m ²
Sludge age	36 days
Sludge produced	69 m ³ /d

Current performance during start up

BOD	<30 mg/l
Ammonia	<0.1 mg/l
TKN	<15 mg/l

ISKI Pasakoy Treatment Plant



Design Requirements

Influent Average Loadings:

BOD	300 mg/l
COD	600 mg/l
TKN	45 mg/l
NH ₃ - N	40 mg/l
SS	300 mg/l
TDS	5,000 mg/l

Effluent standards

BOD	5 mg/l
Total N	10 mg/l
Total P	1 mg/l
SS	5 mg/l
NH ₃ - N	2 mg/l
Parasites	zero

Plant Data

Maximum daily flow	125 m ³ /d
Average daily flow	125 m ³ /d
Peak flow	2,7 l/sec
MLSS aer.tank	12- 20,000 mg/l
Membrane units	2 x ES150
Membrane area	240 m ²
Sludge age	25 days

Current Performance

BOD	<5 mg/l
Ammonia	<1 mg/l
TKN	<7 mg/l
COD	<60 mg/l
Parasites	zero

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