



**MH WATER SOLUTION**  
PURE WATER SAVES LIFE

A House of Pump, ETP, STP, WTP, ZLD  
Deep Tube-well & All accessories of water solution

An aerial photograph of a large industrial water treatment facility, showing various tanks, pipes, and buildings. The image is framed by a large, stylized green circular graphic.

**WATER, ENERGY  
& ENVIRONMENT**



**Hotline**

**+880 132 506 5588**



# Corporate Introduction

**MH Water Solution** is a new Bangladeshi environmental engineering company focusing on designing and turnkey project execution in water and waste water treatment and energy related projects for industries, institutions & municipalities. The company also has a strong product line up to meet the market requirement on WATER, ENERGY & ENVIRONMENTAL respect.

The company has qualified and highly experienced Engineers & Scientist successfully executed more than 600 projects on WATER, WASTEWATER, BOILER & ENVIRONMENT in Bangladesh & abroad. Although water is perhaps the resource most under pressure globally, the increasing energy saving and environmental concern has loomed us to from an integrated approach towards energy saving & environment management aspects. Therefore, we have combined our experience and approach towards gamut of energy & environment solution. We offer a complete portfolio of advanced environmental solutions and services on rain water harvesting to total recycling of spanning water, heat recovery and treatment of gaseous effluents, solid & Hazardous waste Incineration and renewable energy, for infrastructure, industrial, municipal and household applications.



**OUR VISION – SUSTAINABLE SOLUTIONS. FOR A BETTER LIFE.**

Our vision is to turn the world's overabundance of wastewater into a valuable, reusable resource.

## OUR VISION

To deliver solutions that solve the world's most complex wastewater challenges and make treated waste water available for reuse or safe environmental release and value add the waste material where possible to drive greater client returns.



**OUR MISSION**

## VALUES



### A partnership based on trust:

We know our customers' need and see ourselves as their partner. We prepare optimized and customized concepts. Moreover, quality with regard to implementation is both our claim and the driving force behind our activities. Our customers can have confidence in us.

### Lasting responsibility:

We act in a responsible manner. Our solutions are sustainable, which means that they are effective and efficient, durable, safe and make economic, ecological and social sense.

### Progress

We are a progressive partner and provide our customers with state of the art, innovative technologies. To this end, we carry out a great deal of in-house development work

### Sustainability:

We are committed to renewable resources. Therefore, we offer an increasing number of technologies for the efficient reuse of wastewater

### Commitment:

We offer unique, tailor-made solutions. We regard every assignment as a fresh challenge and are committed to both our customers and their projects.

### Valuable partner:

We generate value added throughout the entire life cycle of the plants of our customers. Our experience and know-how pay concrete dividends.

### Concentrated strength:

We possess top positions in selected, national and international markets. We raise our efficiency through the targeted use of our competences.

### Employees – our most powerful source of potential:

We are extremely conscious of the fact that our employees represent our greatest corporate asset. Every day, they realize our multifaceted and exciting assignments on a platform formed by trust, fairness and integrity in an international environment. We promote creativity, diversity and personal development.



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# Water Treatment Plant



**Water treatment Plant** is a process that improves the quality of water to make it appropriate for a specific end-use. The end use may be drinking, industrial water supply, water recreation or many other uses, including being safely returned to the environment. Water treatment removes contaminants and undesirable components, or reduces their concentration so that the water becomes fit for its desired end-use. This treatment is crucial to human health and allows humans to benefit from both drinking and industrial use.

## Iron Removal Plant

**Iron Removal Plant** is most effective solution in Industrial Water Purifier Sector in Bangladesh. It is wide using for Industrial solution as well as home use. Our Industrial Reverse Osmosis Plants and Iron Removal Plants are carefully customized and configured to suit the individual requirement of the output water, which varies from normal drinking water application to the specific usage, such as food Processing Plant and others.

### Application

- Flats, Apartments, and Homes
- Educational Institutions
- Hotels and Resorts
- Hospitals
- Municipality water supply
- Pharmaceutical needs
- Industries



## Water Softener Plant



**Water Softener Plant** is a process where Calcium and Magnesium ions are exchanged for Sodium ions. Calcium and Magnesium ions associated with Alkalinity contribute for scale formation. These ions are also called as Total hardness. The strong acid Cation exchange resin in Sodium form is used for softening the water. When the resin is exhausted, it is regenerated with brine solution (Sodium Chloride) 10% or 15% brine solution is normally used for the regeneration. If the brine solution is passed from the bottom of the resin and service flow is from the top, then it is called as Up flow softener. If the service and regeneration flows are from top to bottom, then it is called as down flow softeners. The softeners are run up to the Hardness slip of 5 ppm as CaCO<sub>3</sub> in the treated water, which is called as Industrial Zero hardness.

### Application

- Boiler Feed.
- Cooling Tower Make-Up.
- Air Conditioning Plant.
- Textile Processing.
- Beverage Production.
- Hospitals, Hotels, Laundries etc.
- Food processing.
- Chemical & textile.
- Water power plants.
- Ice plant.
- Dyeing processes
- Pharmaceutical industries
- Product finishing



Resin



Carbon



Sand



Strainer



Strainer



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# Part of Water Treatment Plant

## Multi-Grade Filter (MGF)

**Multi-grade filter (MGF)** is a depth filter that makes use of sand with coarse and fine media mixed together in a fixed proportion. This arrangement produces a filter bed with adequate pore dimensions for retaining both large and small suspended particles. This filter performs at a substantially higher specific flow rate than conventional filters. Specific flow rates have been successfully obtained for treating waters to produce iron free, suspended solids and turbidity free water.



### Materials of Construction

- Stainless steel-304, 316 (SS)
- Mild Steel tanks with Epoxy Paint (20, 40, 80 Schedule) (MSEP)
- Fiberglass Reinforced Plastics (FRP)
- Mild Steel Rubber Line (MSRL)

## Iron Removal Filter (IRF)



The process involves the **Iron Removal filter** of the soluble form of iron to the insoluble form and then removal by filtration. In filtration processes, water is passed through a column of MnO<sub>2</sub> media which adsorbs and catalyzes the oxidation of the iron. The filtering capacity of the granular MnO<sub>2</sub> media then retains the precipitated iron until it is backwashed out of the column. Backwashing creates waste water and sludge, which the water system must properly dispose.

### Materials of Construction

- Stainless steel-304, 316 (SS)
- Mild Steel tanks with Epoxy Paint (20, 40, 80 Schedule) (MSEP)
- Fiberglass Reinforced Plastics (FRP)
- Mild Steel Rubber Line (MSRL)

## Activated Carbon Filter (ACF)

**Activated Carbon Filters (ACF)** are intended to remove free residual chlorine (FRC) present in feed water. Granular activated carbon is used as the filter media. Activate4d Carbon Filter is most suitable for removal of odor, organic matter and traces of oil.



### Materials of Construction

- Stainless steel-304, 316 (SS)
- Mild Steel tanks with Epoxy Paint (20, 40, 80 Schedule) (MSEP)
- Fiberglass Reinforced Plastics (FRP)
- Mild Steel Rubber Line (MSRL)

## Softener Filter (SF)



A Water **Softener** is a filtration system that works to remove high concentrations of calcium and magnesium that cause hard water. When water flows through a Water Softener, the system filters out these hard water minerals and the softened water then leaves the water softening system to flow through plumbing.

### Materials of Construction

- Stainless steel-304, 316 (SS)
- Mild Steel tanks with Epoxy Paint (20, 40, 80 Schedule) (MSEP)
- Fiberglass Reinforced Plastics (FRP)
- Mild Steel Rubber Line (MSRL)



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Butterfly Valve



Multi-port Valve



Flow Meter



Ball Valve



Non-return Valve



## Reverse Osmosis Plant (RO)

**Reverse Osmosis (RO) Plant** is natural process. When a dilute solution is separated from a concentrated solution by a semi permeable membrane, pure solvent flows from the dilute solution to the concentrated one through the membrane. If the solvent concerned is water, then pure water, separated from a salt solution by a semi permeable membrane readily passes through the membrane. The concentrated solution becomes dilute with this flow of pure water. This flow of water continues until the pressure created by the osmotic head equals the osmotic pressure of the salt solution. This is known as "Osmotic Equilibrium". During Reverse Osmosis (RO) process, pressure is continuously applied to the feed stream by a high-pressure pump. Feed stream gets divided into a "permeate" stream-low in dissolved salt and brine (or reject) stream very high in dissolved salts content. Dissolved salts rejected by the membrane are continuously flushed from the system viz brine stream. A flow control valve on the brine stream controls the percentage of feed water that is converted into permeates.

The RO Plant will be a skid mounted semi-automatic type system. The plant will have necessary instrumentation like flow indicators, high and low pressure switches, pressure indicators etc. RO feed water parameters such as pH, free residual chlorine, turbidity and silt density index are monitored at regular intervals by means of appropriate instruments. Control system of the plant ensures proper interlock to safeguard the system viz. High pressure pumps, RO membrane elements from operational problems. Similarly Conductivity Indicator is provided at Permeate outlet to monitor water quality.

### Application

- > Commercial Reverse Osmosis Plant
- > Industrial Water Treatment Plant
- > Residential Reverse Osmosis System
- > Portable Reverse Osmosis System
- > Heavy Duty residential Reverse Osmosis System
- > Jar Water Project
- > Small Bottle Water Project
- > Boiler Feed Water Treatment
- > Food and Beverage Industry
- > Pharmaceutical Industry
- > Drinking Water Plant



## Ultra Filtration System (UF)

**Ultra filtration** is a tangential flow, pressure driven filtration process that separates particles on the basis of their molecular size. Pore diameters of ultra filtration membranes are in the range of 10 to 200 Å (0.001 to 0.02 micron). Solvents and species having a diameter smaller than the pore size of the membrane will pass through the membrane and emerge as ultra filtrate known as permeate. Rejected species are progressively concentrated in the retained stream. Ultra filtration membranes are reusable and cleanable with standard chemicals.

### Ultra filtration of process water provides:

- Removal of virtually all-particulate matter, suspended solids, bacteria, viruses and pyrogenic species from pharmaceutical and industrial process water.
- Removal of colloidal material (non-reactive silica, iron, aluminum etc).
- Removal of high molecular weight organic.

The ultra filtration membrane is a thin polymeric material (Polyether sulphone) with an anisotropic pore structure. This means the membrane does not have the same pore structure throughout its matrix. Generally ultra filtration membranes are rated on their Molecular weight Cut off, abbreviated MWCO. This is an indicator of the relative size of the globular molecules which a membrane will remove. Membrane systems has ultra filtration membranes with MWCO ranges between 50000 to 200000. The aqueous phase and material smaller than the membrane's nominal MWCO will pass through the membrane. Therefore, the product stream will contain water, ionic species and low molecular weight material, whereas the membrane will reject colloidal matter, particle bacteria, viruses, and pyrogenic species.



### Application

- > Pretreatment of Reverse Osmosis plant for reduction in SDI.
- > Removal of colloidal silica.
- > Bacteria/ Pyrogen removal to get USP grade water.
- > Concentration of waste coolants.
- > River water filtration.
- > Filtration of wines, fruit juice.



RO Pressure Tube



RO Membrane



High Pressure Pump



Cartridge Filter



Flow/Pressure Meter

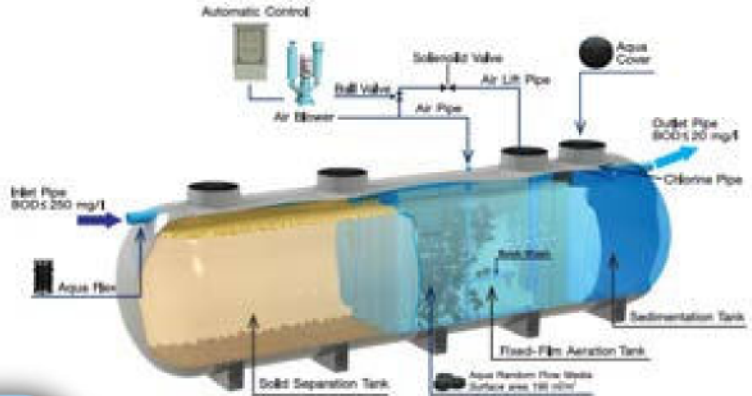


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# Package Sewage Treatment Plant (STP)

We are manufacturer and supplier of Jokhasou Packaged STP Plant in Bangladesh. The package STP is a System where it can install where limitation of space and wide application of jokhasou Package STP in commercial and residential both sectors. Now a day Packaged Sewage Treatment Plant is widely using Building, school, community area, industry and large commercial space. Package STP is also available in semi- automatic and fully- automatic models, Package STP Plant requires less space and civil work for installation and erection. It treats the sewage waste in order to make it safe for disposal in the environment. In the final stage, treated water generated can be used in gardening, flushing and washing



## Jokhasou Package STP

- Compact in size
- Easy to shift to a new location
- Less requirements of maintenance
- Minimum civil and space requirement for installation
- In compliance with regulatory bodies
- Energy efficient
- Corrosion resistant
- Less operational cost
- Minimal land usage in Under ground
- Low operating cost
- Minimum power and chemical requirement
- Easy to install, relocate and can easily expand
- Significant Savings

## Comparison between Jokhasou and concrete sewage treatment plant

Topic	Jokhasou	Concrete sewage treatment plant
Investment	Low	Huge
Area request	A narrow area can be used for installation	Required large construction area
System take care	Easy to take care by individual user	Request trained technician to handles as it is more advanced sue its size
Area impact	Completely to maintain good environment in the area	May be odor from the central plant
Damage	Less impact from earthquake or other disaster	Civil structure can be damage from disaster
Installation	1-2 weeks	3-5 years
Apply to	Rural area	Urban area

## Application

- Residential Building
- Hotels and Motel
- Schools, College and University
- Commercial Industries
- Restaurants and Pubs
- Food courts and Beverage Industry

## Post Treatment

The optional Tertiary Treatment includes equipment like chlorination for dis-infection and Multi-grade Sand Filter & Activated Carbon Filter for removal of residual suspended solids, traces of organic materials, color and chlorine.

- All-in-one single tank Sewage Treatment Plant
- Virtually silent operation and odorless
- Compact and simple to operate
- High quality treated water
- Minimal maintenance





## Effluent Treatment Plant (ETP)

**MH Water Solution** is the nation's leading wastewater treatment plant engineers with industrial wastewater treatment expertise successfully working with Effluent Treatment Plant or ETP is one type of waste water treatment method which is particularly designed to purify industrial waste water for its reuse and its aim is to release safe water to environment from the harmful effect caused by the effluent.

Industrial effluents contain various materials, depending on the industry. Some effluents contain oils and grease, and some contain toxic materials (e.g., cyanide). Effluents from food and beverage factories contain degradable organic pollutants. Since industrial waste water contains a diversity of impurities and therefore specific treatment technology called ETP is required

### Benefits of ETP

- To clean industry effluent and recycle it for further use
- To reduce the usage of fresh water in industries
- To preserve natural environment against pollution
- To meet the standards for emission of pollutants set by the Government & avoid heavy penalty
- To reduce expenditure on water acquisition

**MH Water Solution** provides water & wastewater treatment processes that include Biological Treatment Plant, Bio-Chemical Treatment Plant, Chemical Treatment Plant, MBR Treatment, MBBR Treatment and Electro-Coagulation system Treatment.

### Application

Textile Industries, Chemical Industries, Paper Industries, Food & Beverage Industries, Steel Industries, Meat processing Industries.



### Bio-Chemical Treatment Plant



Effluent is the stream of excess chemical liquor which is extracted from an industry after using in original operation. The excess dye liquor which is extracted from textile industry after dyeing from different processes are treated with various chemicals to remove or neutralize the toxic materials before discharging to environment (eg. Aground Water). **MH Water Solution** provides Bio-chemical wastewater treatment processes that include chemical precipitation (coagulation, flocculation), ion exchange, neutralization and adsorption.

### Biological Treatment Plant



**MH Water Solution** offers exclusively designed Biological treatment Plant that is an important and integral part of any wastewater treatment plant that treats wastewater from either municipality or industry having soluble organic impurities or a mix of the two types of wastewater sources. The obvious economic advantage, both in terms of capital investment and operating costs, of biological treatment over other treatment processes like chemical oxidation; thermal oxidation etc. has cemented its place in any integrated wastewater treatment plant.



Air Diffuser    Mixing Agitator    Horizontal Pump    Dosing Pump



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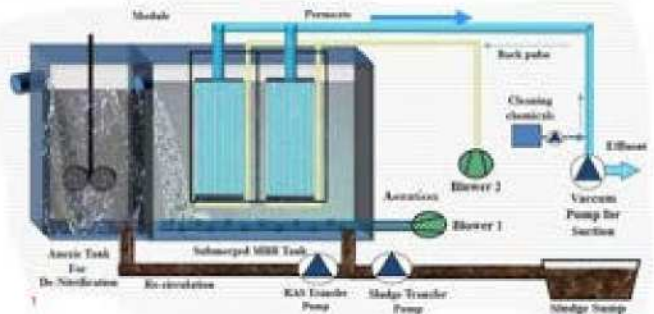
## Chemical Effluent Treatment Plant



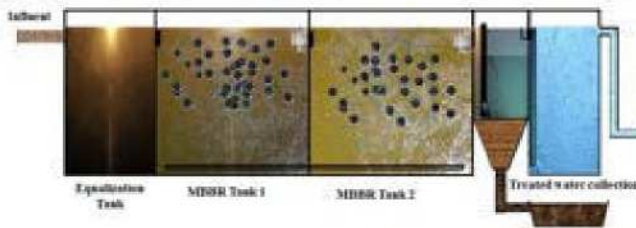
Chemicals are used during wastewater treatment in an array of processes to expedite disinfection. These chemical processes, which induce chemical reactions, are called chemical unit processes, and are used alongside biological and physical cleaning chemical neutralization and stabilization, which can be applied to wastewater during cleaning. **MH Water Solution** provides an excellent methodology for Chemical treatment Plant.

## MBR Based Effluent Treatment Plant

**Membrane Bioreactor (MBR)** is a advanced technology developed since the end of 20th century which realized the efficient combination of membrane separation technology with biological technology. The membrane separation technology replaces the traditional active sludge method and the normal filter unit, its strong separation ability can make the SS turbidity near to be zero, therefore greatly expands the scope of application of waste water recycling.



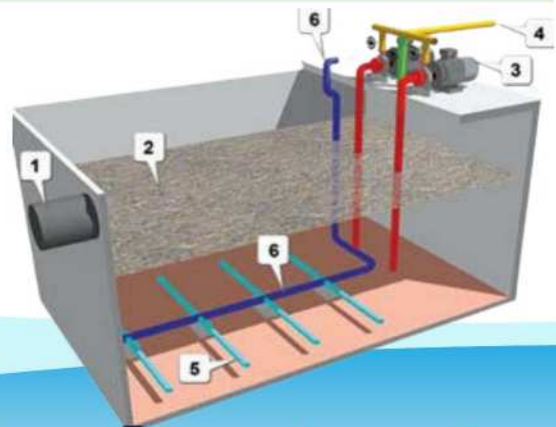
## MBBR Based Effluent Treatment Plant



**MBBR (Moving Bed Bio Reactor) Effluent Treatment Plant** is used for providing safe and clean water. It helps in meeting out successfully the process of reusing and recycling. Our Effluent treatment plant treats the water efficiently. It has been done by making it free from harmful bacteria's and other elements. The MBBR Effluent treatment plant got its application in various industries. Our plants have got a wide appreciation among our clients for several features.

## Equalization Tank

The screened raw effluent shall be collected in the Equalization tank. Usually, waste generations are more during production hours and vary with time. Visually no during off day and maintenance and production lean time is generated during night hours. Any reactor system needs constant feed for influent load to work efficiently. Hence, it is important to put an equalization tank to collect the excess flow during peak hours and feed sewage in lean hours. A typical equalization tank has a capacity of 8 – 12 hours of average flow rate. The tank is generally of civil construction by client. Provision of air grid is to be made for thoroughly mixing the effluent to make it of homogeneous quality and to keep the suspended matter in suspension and to avoid septic conditions.



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Air Blower



MBBR Media



MBR Module



Filter Press



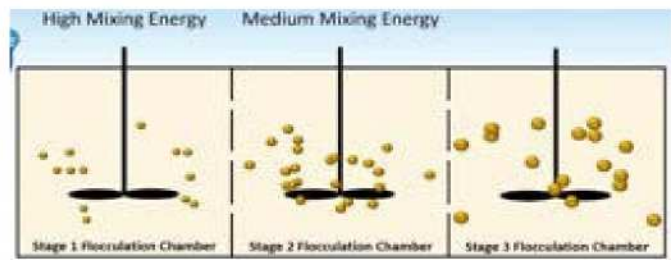
Screw Press



# Part of Effluent Treatment Plant (ETP)

## Flocculation Tank

After the equalization tank the effluent comes to the flocculation tank by pumps. Flocculation is the separation of a solution, commonly the removal of sediment from a fluid. The term is derived from floc, which means flakes of material; and when a solution has been flocculated, the sediment has formed into larger aggregated flakes, making them easier to see and remove. This process occurs naturally, or it can also be forced using flocculants and/or physical processes.



## Clarifier



Primary Clarifier



Lamella Clarifier



Tube Settler

After the flocculation tank the effluent comes to the primary clarifier/Lamella Clarifier/Tube Settler by gravity. The clarifiers are used to separate settle able solids from the raw incoming wastewater. These are located on the downstream of the plant. The major function of the primary clarifier/Lamella clarifier/Tube Settler are the removal of all settle able and floating solid waste which have a high oxygen demand – BOD.

## Aeration Tank

Aeration is the process of adding air into wastewater to allow aerobic bio degradation of the organic materials. The principal secondary treatment techniques used are the trickling filter and the activated sludge process and are often classified as fixed-film or suspended-growth systems respectively. A typical Aeration tank has a capacity of 16 – 22 hours of average flow rate. The tank is generally of civil constructed.



Tube Settler



Bar Screen



Oil Skimmer



pH Meter



TDS Meter



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# Zero Liquid Discharge (ZLD)

Water treatment (SDG 6.3) is an important aspect of sustainability, where full water reuse (i.e. Zero Liquid Discharge 'ZLD') is the most sustainable solution. Zero liquid discharge (ZLD) is an engineering approach to water treatment where maximum water is recovered and contaminants are reduced to solid waste. We introduce you with Electro-Coagulation system as pre-treatment which is an advanced water treatment technology and is used to remove a wide range of pollutants to make the water reusable in the textile process.

We, 'MH Water Solution' have a foreign partner (Netherlands) 'QStone Capital' as the developer of waste water treatment projects converting innovative technologies into cost savings for textile owners, supporting the industries to meet the compliance of Global Brand Buyers. And 'Primax' as our local co-construction partner specialized in steel technology and infrastructure.

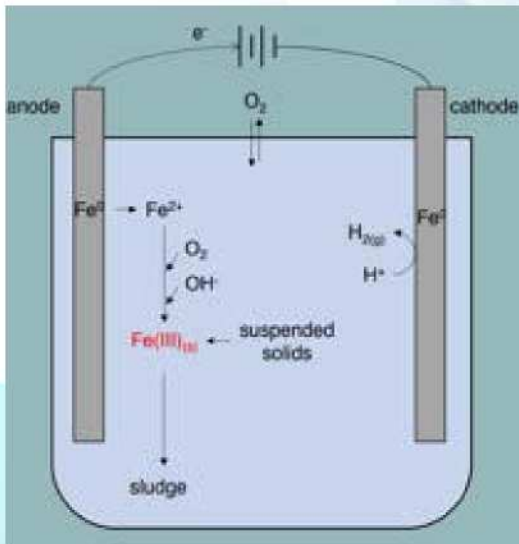


## Complete ZLD System

We offer a complete ZLD water treatment system with a minimum intake capacity of 500m<sup>3</sup>/daily module. Each module consists of 5 components:



Including automation (Remote Monitoring System – "RMS") that will enable QStone to co-monitor the installation and assist and provide advice for the maintenance and operation of the installation. Both the EC related technology and the Condenser related technology are "state of the art" in cost saving innovation.



The Electro-coagulation reactor is the reactor that electrochemically treats the wastewater. The treatment will remove the COD/BOD particles, TSS, Turbidity, Heavy metals, Hardness, partly nitrogen components, phosphate, and colour. All these components will be captured in the coagulation flocs and will be removed from the water by sedimentation or flotation. Once the influent reaches a satisfactory quality of pH, conductivity, and temperature, it enters the EC reactor where the contaminants aggregate with iron hydroxide complexes. It represents the main process point around the electro-coagulation system.

### Flocculation chamber

Once the charge of the pollutants is neutralized, a high-energy, rapid mix is needed to properly disperse the coagulant and to encourage particle collisions. This is done by air bubbling in the EC reactor. Overmixing does not affect the initial coagulation, but insufficient mixing will result in this step being incomplete. Therefore, an extra step called flocculation is needed to strengthen the flocs. It can be seen as a gentle mixing stage, which increases the particle size from micro flocs to visible suspended particles, ready to be filtered by a sand filter and guided to the membranes

## Our Partner for ZLD





## Compensation (costs and fees)

1. QStone Capital offers a fixed purchase price which is total €425k (excluding vat) for the above mentioned total installation of a module consisting 500m<sup>3</sup> capacities and including 5 components. First down payment of €150k to start the work, a second installment of €150k at delivery of the EC module and the Sand filter (Multi Media Filter) and the final installment of €125k after official commissioning of the total installation. For the RMS QStone charges €450 per month (all amounts are excluding VAT)
2. Any operational expenses will be borne by textile owner separately, including the metal plates which are being used as a consumable in the EC part of the total process.
3. In case the Textile Producer would require assistance with the regular maintenance, a separate arrangement will be formulated for this.



## Funding

Based on the need of the Textile owners we offer financing for this project by our European Financier partnered with QStone Capital. The interest rate varies from 4%-6% and the term is 5 years.

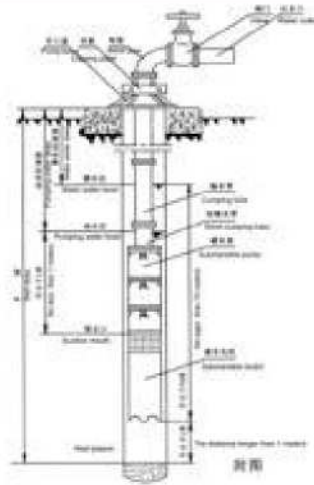
## Comparison between Electro-Coagulation and Others Technology

	CAS	MBR	MBBR	FBBR	EC
Pre-treatment requirements	<ul style="list-style-type: none"> <li>•Filtering screen</li> <li>•pH correction</li> <li>•Temperature</li> </ul>	<ul style="list-style-type: none"> <li>• Filtering screen</li> <li>• pH correction</li> <li>• FOG&lt;30 mg/L</li> <li>•Temperature</li> </ul>	<ul style="list-style-type: none"> <li>• Filtering screen</li> <li>• pH correction</li> <li>• FOG&lt;30 mg/L</li> <li>•Temperature</li> <li>• Enough nutrients. If not, need to dose</li> </ul>	<ul style="list-style-type: none"> <li>• Filtering screen</li> <li>• pH correction</li> <li>•Temperature</li> </ul>	<ul style="list-style-type: none"> <li>• Filtering screen</li> <li>• 7&lt;pH&lt;8.5</li> <li>•Temperature</li> </ul>
Operating parameters	<ul style="list-style-type: none"> <li>• F: M ratio</li> <li>• MLSS</li> <li>• Aeration (DO)</li> </ul>	<ul style="list-style-type: none"> <li>• SRT</li> <li>• MLSS</li> <li>• Aeration {DO}</li> </ul>	<ul style="list-style-type: none"> <li>• SRT</li> <li>• MLSS</li> <li>• Aeration (DO)</li> </ul>	<ul style="list-style-type: none"> <li>• SRT</li> <li>• MLSS</li> <li>• Aeration (DO)</li> </ul>	• Current
Chemical used	<ul style="list-style-type: none"> <li>• Decolouring Agent</li> <li>• Polyelectrolyte</li> <li>• PAC</li> <li>• De foamer</li> <li>• Polymer</li> </ul>	<ul style="list-style-type: none"> <li>• Sodium hypochlorite/Hydrogen peroxide</li> <li>• Citric acid/Caustic soda</li> <li>• Hydrochloric acid/Sulphuric acid</li> <li>• De foamer</li> </ul>	<ul style="list-style-type: none"> <li>• Nutrients</li> <li>• Polyelectrolyte</li> <li>• Polymer</li> <li>• De foamer</li> </ul>	<ul style="list-style-type: none"> <li>• Polyelectrolyte</li> <li>• Polymer</li> <li>• De foamer</li> </ul>	None
HRT	15-24 Hrs	7-15 Hrs	6 Hrs	1-5 Hrs "	1 Hr
Effluent water quality	Good	Excellent	Good	Good	Excellent
Resistance to influent variation	Poor	Poor	Good	Excellent	Excellent
Difficulty of operation	High	High	Medium	Low	Low
Required space	High	Low	Medium	Low	Medium
Energy consumption	Medium	High	Medium	Medium	Medium
Overall costs	Medium	High	Medium	Low	Medium
Susceptibility to a grease leak	None	Very sensitive. Membrane needs to be cleaned well/replaced	Very sensitive. Material has to be changed, the plant will need a ten day restarting-time	Leaked oil will float upwards and is easy to remove	None
Handling of an electrical shutdown	Good handling	Up to 24 hours without problems	Up to 10 hours. Afterwards bacteria will form bio-cakes	Good handling	Good handling
Removal of:					
Colour					
TSS					
Turbidity					
Bicarbonate					
Carbonate					
Calcium	Poor	Poor	Poor	Poor	Excellent
Manganese					
Barium					
Aluminium					
Silica					
Heavy metals					





## Deep Tube Well



**Deep Tubewell** means a tube well called as such operated by a submersible pump set or turbine pump coupled with a prime mover capable of pumping ground water when the pumped water level depth is more than 7 meters

**Deep Tubewell** means a tubewell facility with a tubewell depth in the range of about 70 to 110 meters, located in an area where groundwater conditions are not suitable for suction mode pumping, and where, therefore, the tubewell is equipped with a vertical shaft turbine pump

## Rain Water Harvesting

Rain Water harvesting is a natural gift by almighty Allah. It is also called rain water collection technology or rainwater treatment system. It is a technology that collect the water at rainy season and store it for daily human use. Rainwater treatment system is epoch-useful decision for the Bangladesh as well as worldwide. Rainwater can be source of our daily water needed. By proper treatment of collected rain water can use for drinking purpose also. The rainwater those are drinkable, can use for different purpose. Such as irrigation like gardening. Like flush at toilet or car wash. It can also use for launder clothes. And it can also use our daily life. Such as taking shower, washing hand. In dry season it can be great asset as well. So, finally we can summarize Rain Water harvesting is a natural source. And it is collected & storage at rainy season from roof tops, parks, road or from open grounds. And make treatment as require.

### What Are The Benefits Of Rainwater Harvesting?

- It is natural source gift by Almighty Allah
- Rainwater is a comparatively clean than others sources.
- It is totally free source of water which get from rainfall.
- It is widely acceptable from point of environmental safety.
- Rainwater helps self-sufficiency and not require to depend on underground water.
- Rainwater can use for daily life.
- It can reduce storm water runoff from homes and businesses.
- For rainwater harvesting uses simple treatment technologies that is cheaper.
- It is very easy to maintain and less operating cost
- It can be used in our daily need as a main source of water
- Rainwater also can keep as a backup source against wells and municipal water.
- Rainwater system is very flexible and can be modular in countryside
- It can provide an exceptional back-up source of water at dry season or remote areas





# Demineralized Plant (DM)

**DM (demineralised) water plants** are systems used to carry out industrial water treatment. To be more precise, the DM plant remove dissolved solids or minerals from process streams and feed water. These plants remove minerals using any one of the following procedures

- Deionisation
- Distillation
- Electrodialysis
- Membrane filtration (nanofiltration or reverse osmosis)

Demineralised water or deionised water is water devoid of its mineral ions. Water in its natural form typically contains mineral ions like anions (sulphate, chloride, nitrate, etc.) and cations (iron, calcium, sodium, copper, etc.) The main purpose for which a DM plant is used is preventing metal oxidation and scale formation

## Two Bed Ion Exchange (Cation & Anion)

A dual bed or two-bed ion exchanger use two (or more) ion-exchange columns or resin beds for treating a stream. Each of these beds contains a different ion exchange resin. During two-bed demineralisation, a **SAC or strong acid cation resin** is used for treating a stream. This helps in capturing the cations dissolved in the water and enables the release of hydrogen ions

The mineral acid solution you will get as a result will automatically get directed towards the **SBA or strong base anion resin bed**. When treated in the second resin bed, the DM plant will remove all the anionic contaminants present in the solution and result in the release of hydroxide ions. The combination of these hydroxide ions and the existing hydrogen ions will result in the formation of water.

The TDS of the stream thus forms will become low. What's more, the water will also have an almost neutral pH. However, there's one issue you must be careful about; dual bed units usually result in sodium leakage, which may affect the water quality. You should be extra cautious when demineralising streams with low pH and/or high TDS

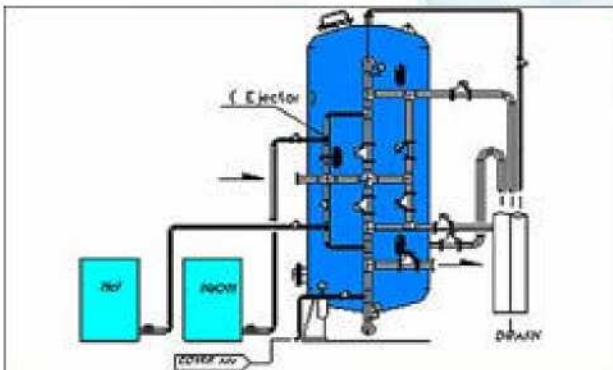


## Mixed Bed Ion Exchange

The water quality offered by mixed-bed ion exchangers is much higher than the dual-bed units. The biggest highlight of these units is that they use a mix of multiple ion exchange resins. This mixture is kept in a single ion-exchange column. When the unit is used to treat a stream, the anion and cation exchange reactions occur simultaneously. This unique working procedure of the DM water plant addresses the issue of sodium leakage effectively.

Here, you must note that while DM plants equipped with mixed-bed ion exchangers produce water of extremely high quality, they also use a more complex resin generation procedure.

Aquashakti Water Solution is the most trusted DM plant manufacturer operating at the moment. They make DM plants of the highest quality. The company manufactures all kinds of DM plants that are currently in use. The biggest highlights of these products by Aquashakti include their affordable price and the lifelong service guarantee offered by the company. Another great thing about these units is that they require minimum maintenance.



## Application

Industries that require the use of makeup water or feed for operating high-pressure boilers  
Food & beverage industries (they prepare rinse water using these plants)  
Electronic goods manufacturers



NaOH



HCl



Cation Resin



Anion Resin



Ejector



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# WATER PURIFIER MACHINE

## RO & Mineral Water Purifier machine



CODE NO  
**MH001**

WARRANTY  
**1 YEAR**

Model : TW-W-12100  
Capacity : 100 GPD  
Type: Wall sink 6 stage RO filter  
**Wall Mounted**  
Reserve Capacity: 10 ltr  
Dimensions : 370\*215\*460 mm  
Weight : 13 kg  
Application water: Running water of under groundwater  
Power : AC 220V  
Brand : Karofi/Tecomen  
Origin : Vietnam

## KAROFI 6 Stage 100 GPD RO Water Filter



CODE NO  
**MH002**

WARRANTY  
**1 YEAR**

Model : KAROFI-100  
Capacity : 100 GPD  
Type : Wall sink 6 stage RO filter  
**Wall Mounted**  
Reserve Capacity: 15 ltr  
Application water: Running water of under groundwater  
Power : AC 220V  
Brand : Karofi  
Origin : Vietnam

## RO & Mineral Water Purifier machine



CODE NO  
**MH003**

WARRANTY  
**1 YEAR**

Model : TW-W-12100  
Capacity : 100 GPD  
Type: Wall sink 6 stage RO filter  
Reserve Capacity: 10 ltr  
Dimensions : 370\*215\*460 mm  
Weight : 13 kg  
Application water: Running water of under groundwater  
Power : AC 220V  
Brand : Karofi/Tecomen  
Origin : Vietnam

## RO & Mineral Water Purifier machine



CODE NO  
**MH004**

WARRANTY  
**1 YEAR**

Model : SANAKI-100  
Capacity : 100 GPD  
Type: Wall sink 6 stage RO filter  
**Wall Mounted**  
Reserve Capacity: 10 ltr  
Dimensions : 370\*215\*460 mm  
Weight : 13.9 kg  
Application water: Running water of under groundwater  
Power : AC 220V  
Brand : Sanaki  
Origin : Vietnam

## KAROFI CABINET 6 Stage 100 GPD Water Filter



Model : KAROFI-Cabinet-100  
Capacity : 100 GPD  
Type: Cabinet 6 stage RO filter  
Reserve Capacity: 12 ltr  
Dimensions : 370\*215\*460 mm  
Application water: Running water of under groundwater  
Power : AC 220V  
Brand : Karofi  
Origin : Vietnam

CODE NO  
**MH005**

WARRANTY  
**1 YEAR**

## RO & Mineral Water Purifier machine



Model : Pureflo-S1  
Capacity : 100 GPD  
Type: Under Sink  
Reserve Capacity: 10 ltr  
Dimensions : 370\*215\*460 mm  
Power : AC 220V  
Brand : Pureflo  
Origin : Taiwan

CODE NO  
**MH006**

WARRANTY  
**1 YEAR**



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# WATER PURIFIER MACHINE

## Sanaky Lotus Cabinet Ro Water Purifier 100 GPD



Model : Lotus  
 Capacity : 100 GPD  
 Type: Cabinet 6 stage RO filter  
 Reserve Capacity: 12 ltr  
 Color : Black  
 Application water: Running water of under groundwater  
 Power : AC 220V  
 Brand : Sanaki  
 Origin : Vietnam

CODE NO  
**MH007**

WARRANTY  
**1 YEAR**

## KAROFI Commercial 400 GPD RO 6 Stage Water Filter



Model : Karofi-400  
 Capacity : 400 GPD  
 Type: Wall sink 6 stage RO filter  
 Reserve Capacity: 40 ltr  
 RO Element : Korea Technology  
 Application water: Running water of under groundwater  
 Brand : KAROFI  
 Origin : Vietnam

CODE NO  
**MH008**

WARRANTY  
**1 YEAR**

## LAN SHAN Taiwan LSRO:1550-G RO Box Water Filter



Model : LSRO-1550-G  
 Capacity : 100 GPD  
 Type: Wall sink 5 stage RO filter  
**Wall Mounted**  
 Reserve Capacity: 15 ltr  
 RO Element : USA Technology  
 Application water: Running water of under groundwater  
 Power : AC 220V  
 Brand : Lan Shan  
 Origin : Taiwan

CODE NO  
**MH009**

WARRANTY  
**1 YEAR**

## Tecomen RO-200 RO Water Filter 200 GPD 6 Stage



Model : TECOMEN-200  
 Capacity : 200 GPD  
 Type: Wall sink 6 stage RO filter  
 Reserve Capacity: 30 ltr  
 RO Element : Korea Technology  
 Application water: Running water of under groundwater  
 Brand : Tecomen  
 Origin : Vietnam

CODE NO  
**MH010**

WARRANTY  
**1 YEAR**

## KAROFI LED Light Indicator Hot & Cold 6 stage RO Water Filter Purifier



Model : KAROFI-HC-SLT:100G  
 Capacity : 100 GPD  
 Type: Cabinet 6 stage RO filter  
 Reserve Capacity: 12 ltr  
 RO Element : Korea Technology  
 Application water: Running water of under groundwater  
 Power : AC 220V  
 Brand : Karofi  
 Origin : Vietnam

CODE NO  
**MH-H&C001**

WARRANTY  
**1 YEAR**

## RO & Mineral Water Purifier machine



Model : PureFlo  
 Capacity : 100 GPD  
 Type: Cabinet 7 stage RO filter  
 Reserve Capacity: 15 ltr  
 Dimension : L13.5 X W16.7 X H37.5  
 Warm 10L, Hot 2L, Cold 2L (Compressor Cooling)  
 RO Element : Korea Technology  
 Brand : PureFlo  
 Origin : Vietnam

CODE NO  
**MH-H&C002**

WARRANTY  
**1 YEAR**



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## OUR SERVICES

- Water Treatment Plant (WTP)
- Reverse Osmosis (RO) Plant
- Rain Water Harvesting (RWH)
- Effluent Treatment Plant (ETP)
- Zero Liquid Discharge Plant (ZLD)
- Sewage Treatment Plant (STP)
- Electro De-ionization System (EDI)
- De-mineralization/ionization Plant (DM)
- Deep Tube well (DTW)
- All Type of Industrial Pump

## Our Some Valuable Client

