

The Epitome of Environmental Engineering



**BT**

**WATER TREATMENT PVT. LTD.**

- ▶ IN-HOUSE DESIGN CAPABILITY
- ▶ IN-HOUSE ASSEMBLY
- ▶ IN-HOUSE MANUFACTURING
- ▶ QUALITY WITHOUT EXCEPTION (ISO 9001:2000)



## INTRODUCTION

**BT Water Treatment Pvt Ltd.** is Manufacturer of water & waste water treatment plants & Chemicals.

We have pleasure to introduce ourselves as one of the leading manufacturer of WATER TREATMENT PLANTS IN BARODA, GUJRAT REGION. We are **ISO-9001:2000** certified company Turnkey Solutions in Environment. We have been supplying water treatment plants Industrial and domestic market since last 27 years.

Our products have already earned a reputation in the market for its reliability and good performance. We have so far installed nearly 4800 units all over India. & Abroad.

We have Group Corporate & Head Office at Vadodara (Gujarat) and Manufacturing facilities at Manjusar (Savli) GIDC. At same location with pilot & bench scale facilities, employing 65 professionals in India. We are aggressively expanding our business in India & abroad.

**BT Water treatment (P) Ltd.** is a leading turnkey projects suppliers of Effluent & Sewage Treatment Plants (Compact) Evaporators (Forced, MEE, Falling Film), Zero Liquid Discharge Plants, with strong R&D expertise supported by experts from Engineering & Scientific fields like Environmental, Chemical, Process, Mechanical, Metallurgical, Instrumentation, Mining, Geology, Biotechnology, Microbiology, Chemistry, Applied Chemistry. We are having business operations at India.

### We offer following products & Services:

#### A) Effluent Treatment, Sewage Treatment Plants & operation maintenance, Process Equipments & Spares

1. Compact sewage water recycling plants **(STP)(ELECTRO BASE & MBBR SYSTEM)**
2. Effluent Treatment Plant **(ETP) MEMBRAN SYSTEM & ACTIVATED SLUDGE PROCESS**
3. Industrial Ro plant / UF System / NF System.
4. Swimming pool filtration plants.
5. Water softener - domestic / industrial – automatic / manual.
6. Dm plant **(DM)** / Mix bed unit (Polishing unit) **(MB)**
7. Pressure sand filter **(PSF)/(IRF)**
8. Activated carbon filter **(ACF)**
9. Duel media filter **(DMF)**
10. UV System & Lamella Clarifier.
11. Treated Effluent water recycling plant. surface water treatment system.
12. Spares for above plants, Cation / anion resin, testing kit, filter media & filter cartridges.
13. We also take maintenance and monitoring contract for the water treatment plants.
14. Yearly operation and maintenance contract of effluent & sewage treatment plant.
15. Cooling tower, Boiler , RO , condenser and other utility plant chemicals ( Antiscalent, Descaling & Algae preventive, PH Correction.
16. Troubleshooting of any chemical process, sludge recovery & ETP.



We have pilot plants for effective & efficient waste water treatment system to ensure that the in-house expertise is tested before using it on large scale facilities.

It would be our pleasure to develop a growing & long standing relationship with your company, so we request you to kindly forward us the enquiries pertaining to our services.

**We assure that you would be getting the best competitive rates and the earliest services for the same.**

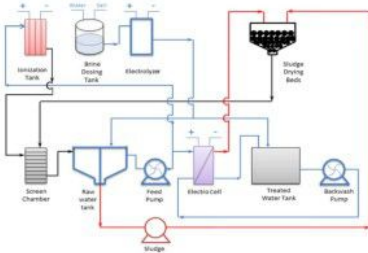


## COMPACT ELECTROLYTIC SEWAGE TREATMENT PLANT

### WHY

Electrolytic West Water Technology is an evolving and emerging field in the treatment of waste water. It is unconventional non biological & chemical free technology. It has the potential to treat effectively the waste water compared to conventional treatment. It has potential to remove even non biological & toxics companionment from the waste streams. The system are compact modular in construction, packaged & noiseless on operation.

### ELECTROLYSIS PROCESS

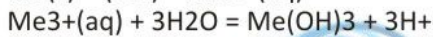
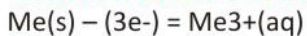


Electrolysis is a technique involving the passage of electricity through the effluent. The electrical current destabilizes dissolved colloidal particles and alters the charge on suspended particles permitting purification of water.

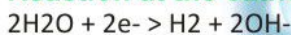
### ELECTRO COAGULATION :

Reactions at the electrodes in Electro coagulation :

#### Reaction at the anode :



#### Reaction at the cathode :



### SPECIAL FEATURES OF ELECTROLYSIS

1. The design uses a unique bipolar technology
2. It is modular in construction
3. It can be designed for either batch or continuous operation
4. It is custom designed & easily expandable
5. It can be retrofitted in the existing facility
6. Pollution removal rates in most cases - more than 95%
7. Can be applied to wide range of effluents

### GENERAL SPECIFICATION:

Sr. No	Parameters	Inlet	Outlet after
1	pH	7.0	7.0
2	TSS	200-300	< 10 ppm
3	BOD	250-350	< 30 ppm
4	COD	400-500	< 100 ppm



### COMPARISON: FOR SEWAGE TREATMENT: ELECTROLYSIS PROCESS v/s CONVENTIONAL BIOLOGICAL ACTIVATED SLUDGE PROCESS

#### ELECTROLYSIS PROCESS

- ▶ Does not generate greenhouse gases
- ▶ Does not deplete atmospheric oxygen
- ▶ Emits low carbon
- ▶ Non chemical, non-biological process
- ▶ No need to maintain biomass, ph, temperature
- ▶ Accelerated start up
- ▶ Conserves more water due to better quality treatment
- ▶ Shock load can be easily tackled
- ▶ Independent of toxicity
- ▶ Noiseless
- ▶ Generates less sludge with better dewatering
- ▶ Easily expandable
- ▶ Ease of operation and maintenance
- ▶ Less moving parts, less maintenance
- ▶ High performance to cost ratio

#### CONVENTIONAL BIOLOGICAL ACTIVATED SLUDGE PROCESS

- ▶ Generates greenhouse gases
- ▶ Deplete atmospheric oxygen (microbiological process)
- ▶ Emits carbon
- ▶ Needs chemicals for disinfection
- ▶ Needs to maintain biomass, pH, temperature
- ▶ Prolonged startup period
- ▶ Conserves less water due to poor quality treatment
- ▶ Shock load cannot be tackled
- ▶ Toxicity destroys microbes, restoration takes time
- ▶ Noisy because of aerators (associated drive)
- ▶ Generates more sludge with lower dewatering
- ▶ Difficult to expand
- ▶ Difficult to operate and maintain
- ▶ More moving parts, more maintenance
- ▶ Low performance to cost ration



## MOVING BED BIOFILM REACTOR (MBBR) TECHNOLOGY:

Moving Bed Biofilm Reactor (MBBR) processes improve reliability, simplify operation, and require less space than traditional wastewater treatment systems.

MBBR technology employs thousands of polyethylene biofilm carriers operating in mixed motion within an aerated wastewater treatment basin. Each individual biocarrier increases productivity through providing protected surface area to support the growth of heterotrophic and autotrophic bacteria within its cells. It is this high-density population of bacteria that achieves high-rate biodegradation within the system, while also offering process reliability and ease of operation.

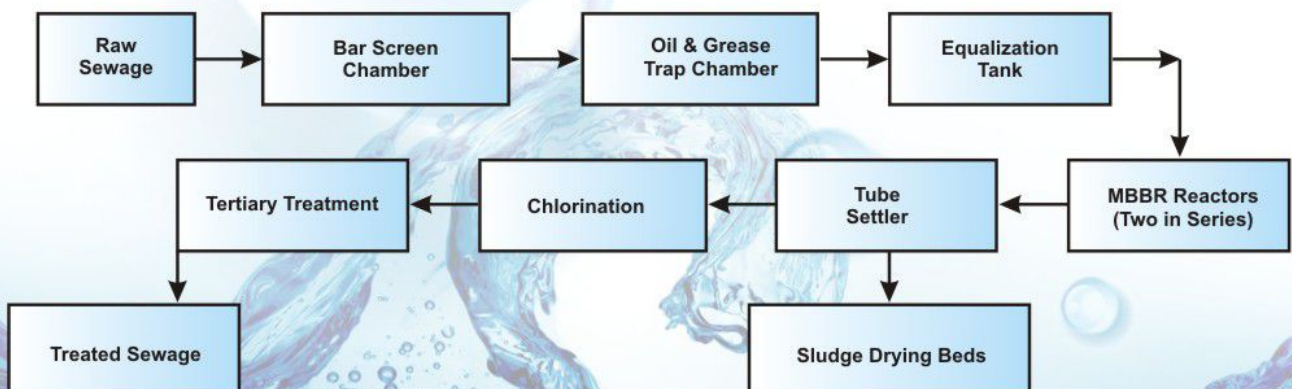
### ADVANTAGES:

1. Compact Design
2. A fraction of the size of conventional systems
3. Cost effective
4. Capacity can be easily upgraded by simply increasing the fill fraction of biofilm carriers
5. Single Pass Process
6. No return activated sludge stream required
7. Actively sloughed biofilm automatically responds to load fluctuations
8. Minimal Maintenance
9. MLSS levels to maintain

Moving Bed Biofilm Reactor systems deliver a flexible, cost-effective, and easy-to-operate means to address current wastewater requirements and the expandability to meet future loads or more stringent discharge requirements within a compact design.



### Process Flow





We design and manufacture the Reverse Osmosis Plants and other plants according to the need for tap water, brackish water & sea water application. We are the leading manufacturer and supplier of Industrial RO Plant and Commercial RO Plant.

**The production range starts from 100 LPH (Liter per hour) to 100 M3 per hour for 400 TDS to 45,000 TDS.**



### Salient features of industrial RO Plant:

1. Above 95% salt rejection and 99% rejection of organic substances like bacteria, colloidal particles etc...
2. Most modern membrane technology
3. Modular design. Easy to operate, easy to install, reliable performance is assumed to avoid any production loss.
4. Low water-rejection rate. Low operational and maintenance cost.
5. Generally use in Boiler feed, textile processing beverages, Hotels, Cooling tower Make up, power plant, food processing etc...

In its simplest presentation Reverse Osmosis and ultra filtration system is a membrane process. That acts as a molecular filter to remove dissolved mineral, organic, inorganic and heavy metals. It will also remove microbial matter including bacterial spores and viruses.

**We are also manufacturing of Polishing units like demineralization treatment plant and Mixed bed unit.**





# BT WATER TREATMENT PVT LTD

## EFFLUENT MEMBRANE RECYCLING SYSTEM

Industries are under increasing regulatory pressure to treat and eliminate industrial wastes. BT has been addressing industries needs through development of Membrane recycling system for application of food & Beverages industries, pharmaceutical and bulk drugs industries , sugar & distilleries, etc... this membrane technology treat organics base effluent only if effluent contain in solvent than this system is not working properly

### Silent features effluent treatment plant:

1. Easy to installation.
2. We can supply the tailor made plant as per waste water.
3. To recover the valuable product from effluent.
4. Pilot plant facility to take trial at your site.
5. Treated water use in Boiler and cooling tower.
6. Very low Operating Cost.
7. Easy to Operate and give reliable performance.



### Application :

- ▶ Packaged ETP
- ▶ Poultry ETP, Sugar Mill ETP
- ▶ Food Processing ETP, Dairy & Milk Processing ETP
- ▶ Distillery ETP, Beverages & cold drinks ETP
- ▶ Pharmaceuticals ETP, Effluent Specific Treatment

## Biological & Chemical Effluent Treatment Plants

Industries are under increasing regulatory pressure to treat and eliminate industrial wastes which contain contaminant such metals, chemicals, oils and organics. BT has been addressing industries needs through development of biological and chemical techniques for applications in Sugar and distilleries, chemical processing, Pulp and Paper manufacturing, Slaughter house and Meat processing, Food & Beverage industries, Pharmaceuticals and Bulk drugs industries, Cement industries, Laundry etc



Pre – treatment and post-treatment systems are also provided by BT which results in complete waste water treatment systems designed for specific applications. In addition, turnkey system capabilities are available which



BT Water manufacturing SWF system Due to the high cost of drinking water and the fact that water is not always available, more and more industries and municipalities use treated surface water. Normally the surface water needs to be treated before it has the required water quality. Surface water typically contains a high suspended solids content, bacteria, algae, organic matter, creating bad taste and odour. In some areas, like river estuaries, surface water can be brackish, reaching up to 8000 mg/L of salts And high turbidity.



One process is commonly used to treat surface water: Conventional treatment including clarification (coagulation/flocculation, sedimentation or dissolved air flotation), sand filtration, activated carbon adsorption and disinfection



**BT Water supplies an extensive and comprehensive range of Water Softening Plants.**

The water softeners use the well-proven "Ion Exchange" process to convert the hard water ions of calcium and magnesium to sodium ions. The resultant water to service is typically less than 4 ppm total hardness.

The presence of hardness salts (calcium and magnesium ions) in the make up water supplies to boilers, cooling and process waters can have a serious impact on their performance. Loss of heat transfer in boilers and poor cooling in re-circulating cooling systems results in an increase in both energy and water consumption, and an increase in operating costs.



## **Product Feature:**

1. Made with MSEPOXY, MSRL, FRP, Vessels for longer life.
2. Use FRP vessel made of Pentair and MSEPOXY, MSRL made in house.
3. Provide manual multiport valve and butterfly or Ball valve also for Easy Operation.
4. Use pre treatment for other water treatment plant.





## LAMELLA CLARIFIER

Lamella Clarifier Is Used for serring of flocculated raw water treatment plants. The system consist of no. of square tanks with inclined plates or tube packs on the top portion. In a lamella clarifier the setting takes place on the media surface and the effective setting area is equal to the media surface area.

### Advantage of lamella clarifiers are :

Lamella clarifiers are significantly more compact than their conventional counterparts and hence amenable to a pre-fab package design.

As steep hoppers are provided sludge removal is possible without the aid of mechanical scrapers.

As no, mechanical equipment is needed these systems are maintenance free

As sludge slides down the lamella plants in to the underlying hopper, parts of the bound water in the sludge is released thereby reducing the water content of the sludge.

Eddy currents and solids carry over due to win effects are eliminated as lamella plates arrest wind penetration.





## Pressure sand Filter

pressure sand filter consists of a pressure vessel-this could be either vertical or horizontal-fitted with a set of frontal pipe work and valves, graded silica quartz sand supported by layers of graded under bed consisting of pebbles and gravels, a top distributor to distribute the incoming water uniformly throughout the cross section of the filter, and an under drain system to collect filtered water.

### Advantages and Features

1. Efficient Turbidity and TSS Removal.
2. Filter up to 20 – 30 Microns.
3. FRP, CS, MSEP, SS Vessel available.
4. Standard and effective silica quartz sand media.

### Activated Carbon Filter / Dual Media Filter / IRF

Activated carbon (AC) is a natural material derived from bituminous coal, lignite, wood, coconut shell etc., activated by steam and other means, and each one have different adsorption properties (e.g. bituminous carbon for high chlorine reduction capacity). We also use various blends of carbon to achieve specific water quality and contaminants reduction.

### Advantage:

1. It can remove Color and order from water.
2. Removal excess chlorine particles.
3. Low Pressure drop across the vessel.
4. Air scouring available for high flow pressure vessel.
5. Automatic Valves are provided as per customer need.
6. Manual, Semi Automatic and Automatic features are provided.
7. IRF Removal of Iron ( $A^{+3}$ ) Particles.





**Boiler Feed Water Treatment** : Low / medium pressure boilers ; high pressure boiler pre-commissioning antiscaling, dscaling, sudge remover, PH Boosters.

**RO Membrane Treatment** Anti Scalants; cleaners biocides, anti oxidants; preservatives; anto-sclants for ultra-filtration & potable water system; RO water PH booster with low nil TDS addition.

**Raw & West Water Treatment** : Organic / inorganic coagulants for raw water clarification sedimentation / setting aids for silt mud & other turbid / colloidal species; polyelectrolytes of board iconicity. BOD / COD improvers; liquid, solid / liquid separation aids; colour & odour removers.

**Collong Water Treatment** : Corrosion inhibitors; dispersants / anti-scalants / halogen - resistant orbanoc triazoles; oxidising biocides; board-spectrum non-oxidizing biocides; closed loop chilled water / hot water systems.

**Special Services** : Precleaning & passivation for freshly commissinned systems; online iron cleanup program; total water management from influent to effluent; equipment performance monitoring program; prognosis / diagnosis programs.





# BT WATER TREATMENT PVT LTD

## Our Valuable Clients



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