



**REUSE OF
INDUSTRIAL
WASTE WATER!**

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About Us

Water is an essential substance on the earth and a gift of nature. It is being widely used by human being from personal to industrial use.

Before centuries, there was no such industrial development, and hence no body took care to use aqua or treated water. But as the time passed on, importance of purified water was experienced by human being in each and every stage of the usages either for personal or industrial use, which becomes stronger and stronger day by day.

At the moment, nobody in the globe can even think to use water availed without treated for purification, either in view of health or maintaining quality of their final industrial products.

There are so many treatments introduced to purify water like:

Distillation	Vacuum Distillation
Ion Exchange	Filtration
Electro Dialysis	Sedimentation
Reverse Osmosis systems	Ultra filtration
Nano Filtration	Micro Filtration
Effluent treatment	Sewage treatment etc

Following the arising developments and requirements of Water treatment, our company- WATERMAN ENGINEERS, have entered the market in 1994 as a manufacturer of Water treatment Plants, Equipments, as well as of Reverse Osmosis systems.



ETP Plant

(Effluent treatment plant)

- It is the process of treatment of industrial waste water like textile, Pharma, and many more. It is use for reuse of waste water or safe disposal of the environment.
- It is for the emission or discharge of environmental pollutants from various industries set by the government and avoids hefty penalties.

The ETP process is mainly depends on design, then treatment level and there mechanism we use for water treatment.

Treatment level

- Primary level
- Secondary level
- Tertiary level (advance treatment)

ETP mechanism

- Physical
- Chemical
- Biological



Treatment Process

- Preliminary Level
- Primary Stage

Primary level

- In Preliminary level physical separation of big sized impurities like stone, cloth ,plastic ,wood, paper, etc. By Screening & sedimentation
- Screening method for uniform size of liquid can pass through hole about 10mm size is there.
- Sedimentation by gravity solids waste are suspended and we can remove from water.

Primary Stage

- In primary stage we have to remove the floating & settle able materials like suspended solids and organic matter. By primary settling tank, By mixing chemicals for Alum, polyelectrolyte, colour removal chemical for removal of waste, for colour removal, for clean the water and making the mixed particle convert to large flocs.
- We can use both physical and chemical method for this treatment
- In physical method there is seeds we are using for removal of suspended solids and organic matter. But it is time taking process and higher area consumable process.
- In chemical method it is mainly in two stage or sometimes three stage of process depends on the water quality and availability of space.
- In chemical treatment we have to use different chemical for the waste water treatment like alum, polyelectrolyte, or different chemical we have to use, for PH control for removal of colour, then for settle ling down the solids (mixed chemical water) and water treatment.



Secondary stage

- In second stage we have to remove, or reduce the concentration of organic and inorganic compounds.
- In this level we have to use secondary settling tank then pipe flocculator for controlling PH and settling down the other suspended solids we can use the strainer for removal of small size of waste and water treatment



Sludge process

- In primary stage we have to remove the floating & settle able materials like suspended solids and organic matter. By primary settling tank, By mixing chemicals for Alum, polyelectrolyte, colour removal chemical for removal of waste, for colour removal, for clean the water and making the mixed particle convert to large flocs.

Third stage (advance treatment)

- In this stage we have use special treatment of water cleaning by, reverse osmosis (RO), sand filter, Carbon filter, ultrafiltration, by UV system or by other treatment as per customer need and water quality needed.

Before this water we can use we have to use some special treatment for cleaning bacteria from water, same remove hardness we have to use softner, then ph control and TDS control we have to user reverse osmosis plant.

After this water treatment we can use this effluent water for further utilization like for drinking purpose then for company production or we can also through this water out in environment.

- **We can go up to the recovery rate 80 – 90 %**
- **We can go up to the flow rate capacity from 5 KLD up to the customer need respectively.**
- **We can also make Zero discharge effluent treatment plant (ZLD).**
- **There is diffuser clarifier in this we can separate the heavy particles from effluent water easily.**

SR. NO.	FLOW CAPACITY FOR ETP	REVERSE OSMOSIS (RO) PLANT CAPACITY (LPH)	ULTRAFILTRATION (UF) CAPACITY (LPH)	POWER (KW)	RECOVER RATE (%)
1	5 KLD	250 LPH	250 LPH	3 KW	80-90%
2	10 KLD	500 LPH	500 LPH	5 KW	80-90%
3	20 KLD	1000 LPH	1000 LPH	7-8 KW	80-90%
4	50 KLD	2500 LPH	2500 LPH	10-12 KW	80-90%
5	100 KLD	5000 LPH	5000 LPH	15-18 KW	80-90%
6	500 KLD	25000 LPH	25000 LPH	20-25 KW	80-90%



Zero discharge effluent treatment plant





Manufacturer of water & waste water treatment systems & packaged bottle water & soft drink plant

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