WASTE WATER TREATMENT SYSTEM

Manual Coarse and Mechanical Fine Screens:

We manufacture high quality screens that are widely used for removing suspended particles from the waste water. These screens are perfectly suitable for large sewage or industrial effluent treatment plants. Screens are automatically cleaned for effective separation of suspended particle. Our engineers can also design manually cleaned coarse screens for smaller plants.
Specifications

Coarse screens: 10 mm to 45 mm gaps for removing large objects pieces of wood, textiles etc) at the inlet channels of the waste water treatment plants

Fine screens: 0.5 mm to 10 mm gap for removing smaller debris, most plastics, textiles, pens etc.
Of different design and constructed in different types of materials like SS304, SS316, MS, CS- Epoxy painted or galvanized etc.

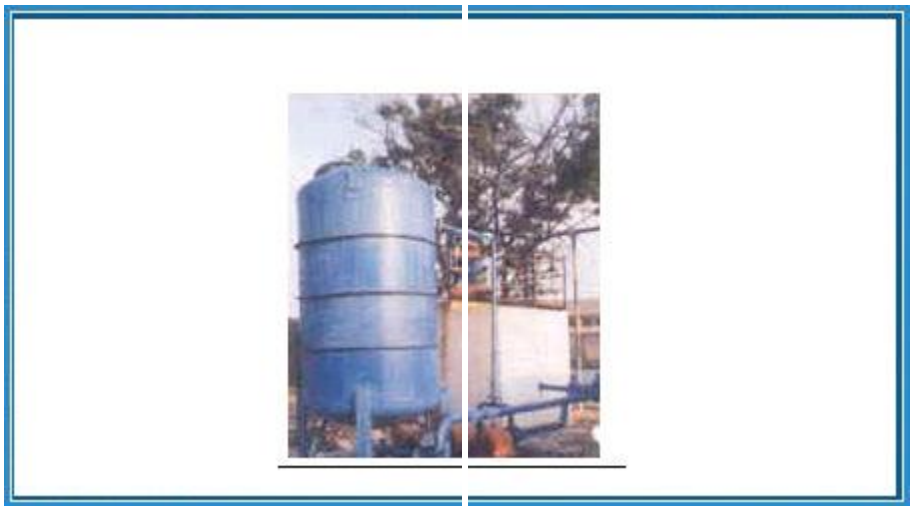
Grit & Grease Removal System:

Our range of grit removal system has a proven record of highest removal efficiency over a wide range of daily flows. The proven efficiency is the result of innovative hydraulic design, which comprises of flat-floor, engineered baffle arrangements and low-energy, axial flow propeller. This combination creates a true vortex which effectively separates grit from the waste stream. The system is widely used for removal of grit and other discrete particles, separation of organic and inorganic, etc. It functions to reduce grit accumulation in downstream basins, channels, weirs and piping. We offer innovative range of grit removal system that features easy installation, simple operation and low maintenance cost.

Oil Skimmers / Oil Removal Systems:

Oil skimmer or oil removal systems are widely used for removal of excess oil from sewage or industrial water. The sewage involves separation of the accumulated oil by kitchen. Kitchen absorb oil and other contaminants present in the water. In the case of industrial effluent water treatment plant, water used for washing contains oils that can be easily removed by oil skimmers. We offer different types of oil skimmers including tube type oil skimmers, belt type oil skimmers etc.

Dissolved Air Floatation Systems:



Dissolved Air Flotation System is the best solution for clarifying water with high levels of algae and other low-density solids that cannot be removed with sedimentation. These machines are designed to affect the highest solid capture and yield the highest level of recovered solids under a wide range of flow conditions. The efficiency for removal of oil / grease and suspended particles rates greater than 95 percent. In some sites, the reported efficiency is almost 99.9% for O&G and SS removal. Our range of DAF system has a record of proven performance in diverse industries for wastewater treatment.

Surface Aerators - Fixed Aerators / Floating Aerators:

We offer vertical shaft surface aerators that provide mechanical means of oxygen transfer to sewage or industrial effluent for treatment. These mechanical surface aerators and floating surface aerators provide the user advantage of durable construction, flexible design and maximum efficiency for wastewater treatment. Any degree of automation can be provided, including individual setting for aeration intensity. Our surface aerators can be installed in any configuration within aeration lanes thereby offering a broad range of treatment capabilities from small communities to major installations.

Floating Aerators:

Our high quality floating aerators feature high speed rotation of the impeller to draw water. These floating aerators are equipped with heavy duty TEFC squirrel cage motors with IP-55 protection. Sturdy design enables the machine to withstand adverse weather condition, allowing for 24 hours of operation. Floats are fabricated with FRP and are filled with polyurethane foam for securing the aerators against accidental mishaps

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Mixers / Agitators:

Our mixers and agitators are designed for maximum wastewater mixing efficiency. These mixers are ideal for use in anoxic basins for de-nitrification and phosphorus reduction. The innovative design facilitates in an unrivaled mixing and uniform top-to-bottom blending of the basin. We offer our clients choice for different reactor sizes and shapes based on the specific mixing application.

Diffused Aeration Systems:

Our aeration diffusers for treatment of waste water is available as a complete system with blowers and all in-basin aeration equipment. In this system air is injected into the effluent water at a fixed pressure such that in the ultimate analysis, the water receives the desired quantity of oxygen to maintain a given level of Mixed Liquor Suspended Solids (MLSS). Air is injected into the water using network of diffusers. We specialize in customizing diffused aeration systems based on the specific requirements of the clients.

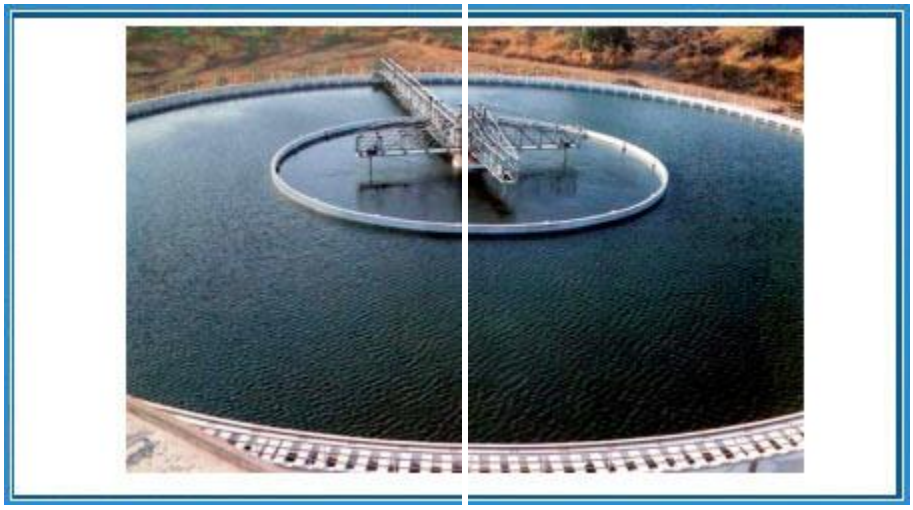
Sludge Thickeners:

Our sludge thickeners provide an effective method to gravity concentrate and decant waste sludge's. The system operates on aerobic system, which by means of bacterial process concentrates sludge thus reducing volume of sludge for easier transportation. Collected sludges are treated with oxygen to maintain and expedite concentration. Sludge thickeners are mostly used for thickening industrial or biological sludge's prior to advanced dewatering processes. These units can be free standing or constructed on a concrete base with numerous inlet and flow configurations and bottom rakes design as per the individual requirement of the client.

Clarifier / Mechanical Scraper Systems:

Our mechanical scrapper system or clarifier is designed for low cost and efficient removal of solid particles from processed water. Water clarifier reduces the velocity of the water, ensuring that the incoming water is distributed uniformly in all the directions to fully utilize tank capacity. This also provides maximum setting time causing efficient separation of settled particles from water. Collected particles gradually travel down the through the slope forming sludge. The clear water in the overflows out via. launder.

Clariflocculators:



Where water has to be clarified through addition of flocculants and where design considerations demand, clariflocculators provide an optimum solutions by giving high efficiency and economy of space and operation. In Akar clariflocculators, effluent mixed with flocculants is guided to the flocculation chamber. In the flocculation chamber rapid settling flocs are formed. The clariflocculator is designed as to cater to the capacity requirement both in terms of quantity of effluent as well as the flocs settling time consideration.

Trickling Filters:

Our advanced range of trickling filters are engineered to provide a cost-effective process for treatment of both domestic and industrial wastewater. These filters are mostly used on the sites, where basic effluent quality is required. Rotatory distributor devices are employed for treatment on remote sites. The under drain system comprises of a network channel that discharge the filter into the main collection residue. Sedimented sludge automatically returns to the primary clarifier. Trickling filters can also be used for biological treatment in complex water treatment facilities.

Pressure Sand Filter:

Our range of sand filters are versatile additions to industrial purification system, aquaculture, etc. These filters work by forcing water at pressure through a bed of carefully graded media that collects dirt and solids. We specialize manufacturing customized pressure sand filters in different capacities as per the client's requirement.

Activated Carbon Filters & Odour Control Systems:

Our range of innovative activated carbon filters are designed to remove color, odor and bad taste from the water and waste water. Activated carbon treated with oxygen traps the particles and adsorbs other impurities from the flowing stream of water. The huge surface area of activated charcoal gives it countless bonding sites, which attracts all the impurities. Activated Carbon filters are specially effective in removing Hydrogen Sulphide (H2S), chlorine, sediment, and volatile organic compounds (VOCs) for water and sewarege.

Dual Media Filters / Multi Media Filters:

Our range of dual media filters / dual media filters are used in the facilities, where the raw material contains suspended particles, turbidity and iron. The dual media filters comprises of sand and anthracite as filtering media and polishing media respectively. Distribution and bottom collecting system are integrated in a compact unit. On the exterior of the unit, there are frontal pipe and isolation valves. Sand is used for removing the suspended particle and anthracite removes the odor and colour to make the water pure. Small pebbles are provided to support both the medium.

Belt Filter Presses:

The Belt filter press of Medium Pressure has been developed for continuous thickening of primary urban or industrial sludge.

The sludge is processed in three distinct stages:
o Flocculation
o Gravity drainage
o Pressing and shearing

The process begins by first conditioning the sludge. The important first step is required to agglomerate the suspended sludge solids into
« flocs » and thus provide an initial separation of sludge solids from the liquid. This stage consists in injecting polymer in the sludge.
Normally, the flocculants is injected upstream the sludge pump to benefit from a progressive mixing by the eccentric screw of the pump.

Conditioning is also designed to build a « structure » into the sludge floc's so that they can withstand gradually increasing pressure and
shearing action. In general, a BFP cannot function without polymer conditioning.

Then flocculated sludge spreads over the filtering belt using a distribution tube in uPVC : free water created during sludge conditioning drains through the belt pores. The importance of proper sludge conditioning in BFP dewatering can be readily observed at this point.
Without conditioning, liquid sludge will simply pond in the gravity drainage section or run out the edges of the belt.
When the two filtering belts converge, pressing and shearing stage begin. The first roller has an important diameter in order to get a progressive pressing. Pressing and shearing operate all along the belt length thanks to rollers with a suitable diameters, which enable to get a progressive pressing of the sludge. Therefore sludge dewatering is maximal and the capture rate is optimal.
After the last pressing stage, the dewatered sludge is scraped from the filtering belts, and then evacuated on a mesh conveyor or other system.
To enable the filtering belts to keep their filtration capacity, they are washed continuously on the travel back to the thickening zone.
Flocculation stage
Lower spray bar
Leveling blade
Gravity drainage stage
Upper spray bar
Scrapper
Blades
Pressing and
Shearing stage
Bearings
All the bearings are equipped with reinforced tightness rollings.
Safety - EC regulations
Due to the closed design of their frame, the belt filter press prevent from any risk of injuries during operation : however, they are equipped with emergency stops located on the sides.

The belt filter press can be supplied in materials like- Mild Steel/Carbon steel epoxy coated of galvanized, SS304 or SS316L etc and can be equipped with covers for the protection of sewer gases and water splashes.