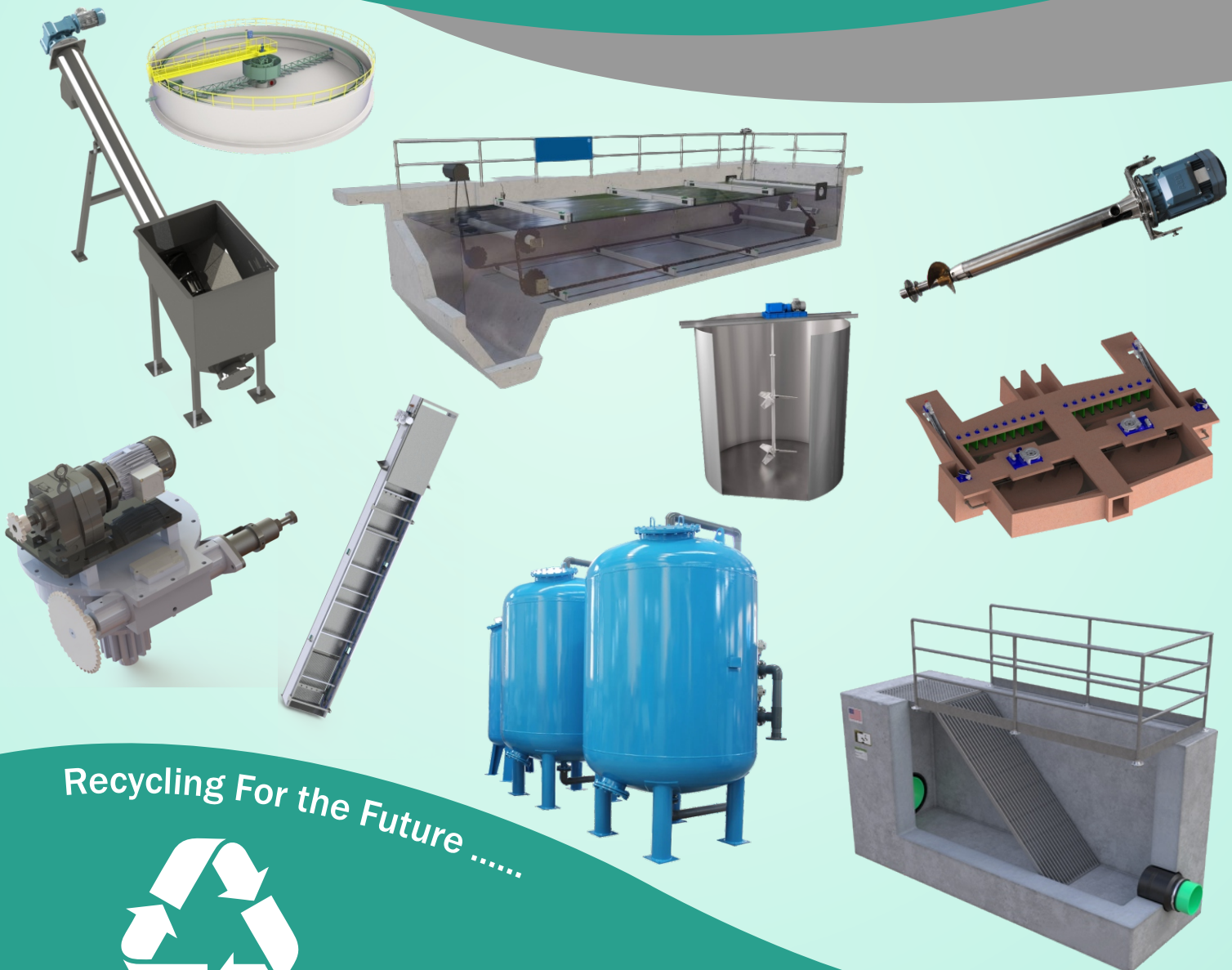




SAM INDUSTRY

For Water & Waste Water Treatment Solution



Recycling For the Future



SCREENS

1- MANUAL SCREEN

DESCRIPTION

Manual BAR SCREEN is used for manual cleaning and is ideal for the coarse filtration at the inlet of waste water treatment plants or outlet of food industry. It consists of a stainless steel frame fixed to the wall with a central screenings area. The frame is installed in the channel with an inclination angle (usually 75°); wastewater passes through filtration area (bars) and screenings are captured. Through a rake, used manually, the screenings are removed of the filtration area and move them to the discharge chute. The advantage of this solution is a high life time due to low mechanical components.



Specifications

Bar spacing	: 6mm to as required
Channel width	: as required
Channel depth	: as required
Material of construction	: SS304, SS316 (other on request)

2- STATIC / PARABOLIC SCREEN

DESCRIPTION

Parabolic is a manually cleaned very fine screen equipment used to prevent fine size floating wastes from traveling further in to waste water treatment plants based on MBR or similar technology so as to prevent damage to the membranes. These are also ideal for effluent treatment. plant of food processing textile, pharmaceuticals, chemicals sugar, breweries etc. Parabolic screen are static screens & do not require any power.



Specifications

Perforated rounded hole dia	: 3mm to 6mm
Wedge wire slot size	: 0.5mm to 2.5mm
Material of construction	: SS304, SS316 (other on request)

3- MULTIRAKE SCREEN (MECHANICAL SCREEN)

DESCRIPTION

This is a heavy duty Multi-rake screen provided with inclined bars spaced apart to prevent medium and large floating wastes from travelling further to the pumps located in the pumping station. The inclined bar screen is stationery and is cleaned by a mechanized rake which rakes the screen upwards to deposit the raked waste to a waste discharge bin / conveyor. Multiple numbers of rakes are provided to clean the waste depositing on bars continuously at a pre-decided time interval. This light duty screen is provided with flat bars, chain link of 2-6 inch size having 40 kN breaking load and polyamide rollers.



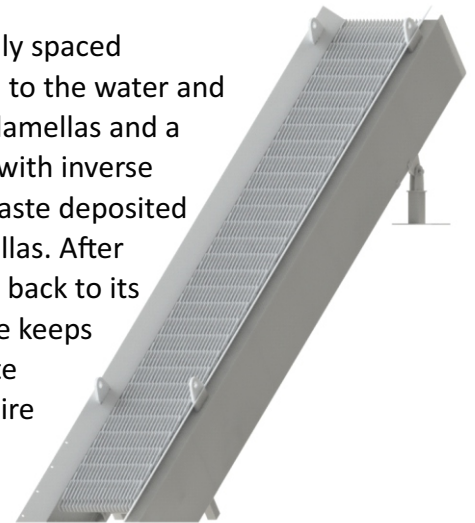
Specifications

Bar Spacing	: 6 mm and above
Channel Width	: 500 mm to 1500 mm
Channel Depth	: Maximum up to 10,000 mm
Mode of Operation	: Motorized
Material of Construction	: Stainless Steel 304, 316, Other grades of Stainless steel on request.

4-STEP SCREEN

DESCRIPTION

This is a hydraulically operated step screen provided with 2-3 mm thick equally spaced inclined lamellas to prevent fine sized floating waste from travelling further in to the water and waste water treatment plants. The lamella assembly comprises of a fix set of lamellas and a movable set of lamellas installed at an angle of 40 & 45 degree and provided with inverse steps so as to promote mat formation. The movable lamellas lift the mat of waste deposited over the screen width and deposit them a step above on the set of fixed lamellas. After depositing the mat of waste on to the fixed lamellas, the movable lamellas go back to its lower home position to start a new operation cycle. This way the mat of waste keeps moving upwards in steps till it reaches the discharge point & further to a waste discharge bin / conveyor. This is a self-cleaning type screen and does not require any external rake arrangement for lifting of waste deposited on screen.



Specifications

Bar Spacing	: 3-6 mm, large spacing on request
Channel Width	: 500 mm to 2000 mm
Channel Depth	: Up to 2000 mm.
Mode of Operation	: Hydraulically through a power pack.
Material of Construction	: Stainless Steel 304, 316, other grades of Stainless steel on request.

5-SCREW SCREEN

DESCRIPTION

Screw screen is mechanically cleaned screening equipment which is used to remove fine sized floating materials with or without compaction. These are mostly used in MBR, sugar, breweries, textile, chemical, food processing units. Filtration area of these screens is constructed through wedge wire and perforated sheet.

Specifications

Perforated rounded hole dia	: 3mm to 10mm
Wedge wire slot size	: 0.5mm to 7mm
Drum Dia	: 150-300mm
Screen field length	: depends on data
Material of Construction	: SS304, SS316 (other on request)



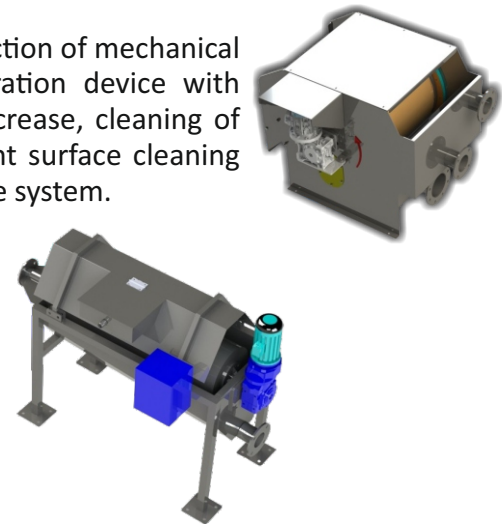
6-DRUM SCREEN

DESCRIPTION

Rotary drum screen is used for solid removal from waste water and for protection of mechanical equipment following the screening unit. It is effective solid-liquid separation device with openings down to 0.25 mm. As the dimensions of solid to be retained decrease, cleaning of the surface becomes more important. The doctor blade ensures an efficient surface cleaning which is supplemented by the Backwashing action provided by flushing nozzle system.

Specifications

Perforated rounded hole dia.	: 3mm to 6mm
Wedge wire slot size	: 0.25mm to 7mm
Screen field length	: depends on data
Material of Construction	: SS304, SS316 (other on request)



7- J-TYPE SCREEN

DESCRIPTION

J-Type screen is mechanically cleaned medium or coarse screening equipment which is applicable to put down all the screenings into basket & screen out all the medium & coarse sized floating materials from the wastewater. These screens are used before pumping stations & prevent breakdown in pump

Specifications

Bar spacing	: 20mm and above.
Mode of operation	: Manual/Electrically by crane hoist.
Material of Construction	: Carbon steel, SS304, SS316 (other on request)



CONVEYOR

1- FLAT BELT CONVEYOR

DESCRIPTION

Flat Belt conveyor is very suitable for long distance transportation of screening. This is installed at the discharge points of the screens & screening conveyed to the discharge pit or screw compactor. Compactor compacts screening through its compaction zone & discharges to the specified destination.

Specifications

Capacity	: up to 15m ³ /hr
Overall length	: variable
Width	: 600 – 700mm (large on request)
Material of Construction	: Carbon steel, SS304, SS316 (other on request)



2- SCREW CONVEYOR

DESCRIPTION

Screw conveyor is very suitable for non hazardous of screening. This is installed at the discharge points of the screens & screening conveyed to the discharge pit or screw compactor. Compactor compacts screening through its compaction zone & discharges to the specified destination.

Specifications

Screw dia	: 200 to 400mm
Overall length	: variable
Inclination angle	: 20-25deg.
Material of Construction	: Carbon steel, SS304, SS316 (other on request)



3-SCREW COMPECTOR

DESCRIPTION

Screw Conveyor with Wash Compactor is very useful for non hazardous transportation of screening. This is installed at the discharge points of the screens & screening volume compacted up to 80 % & conveyed to the discharge pit. It reduces transportation cost and land fill area.

Specifications

Screw dia	: 200 to 350mm
Overall length	: variable
Inclination angle	: 3-5deg.
Material of Construction	: Carbon steel, SS304, SS316 (other on request)



FLOW CONTROL GATE

1- MANUAL /MOTORIZED GATE

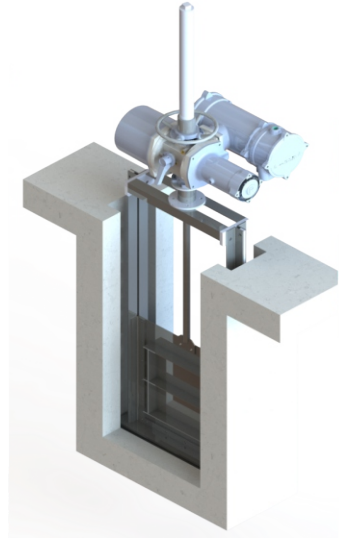
DESCRIPTION

Water control gates are effective in isolation of water and control its flow & level. They can be installed pre/post-construction of channel walls. It finds application in a wide range of industries. The four gates we offer are:

- Open channel gate • Wall mounting deep gate

Specifications

Size	: 200 to 2000mm
Sealing	: 3 sides and 4 sides.
Actuation	: Manual, Motorized,
Mounting	: wall mounted/ thimble mounted (as suitable)
Material of Construction	: SS304, SS316, Alu (other on demand)
Design standards	: as per AWWA Standard

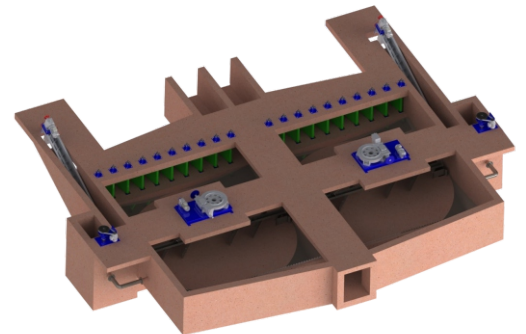


DEGRITTING

1- GRIT MECHANISM (DETRITOR)

DESCRIPTION

Detritors are the grit collection and washing chambers in which grit is settled down, scrapped towards the collection pit then organic materials washed out through the organic return mechanism & then collected grit taken out through screw classifiers / reciprocating rake classifiers. Screw Classifier is a motorized operated equipment which is used to classify the grit and then screw out them into grit pit / chamber with the help of screw arrangement. The shaftless screw extracts the grits from the hopper's bottom, while the cleaned water outflow through the outlet spout. The water enters the hopper and the sand falls on the bottom, to then be extracted from the cochlea that, by rotating at low speed, avoiding turbulence and increases the efficiency of the process. Inclination angle may be defined up to 20-25 deg.



Specifications

Tank Size	: as per civil chamber size
Tank Shape	: square/circular
Screw classifier dia	: 150 to 350mm
Screw classifier Shaft	: shaft /shaft less
Grit separation	: $\geq 90\%$ for particles up to 200 μ
Trough Protection	: HDPE/UHMWPE liner (as per req.)

2- GRIT CLASSIFIER

DESCRIPTION

Grit Classifiers consist of an inclined screw conveyor with a large volume loading and sedimentation hopper including a water inlet and outlet spout, a shaftless screw housed in a trough, a low-friction anti-wear trough liner, a trough cover, an outlet spout for solid particles, and a drive unit mounted at the outlet end. Water to be cleaned flows through the inlet spout of the Grit Classifier into the decanting hopper where sedimentation of solid particles takes place. Low screw rotation speed improves sedimentation and sees to conveying and discharging of de-watered grit and sand through the upper outlet. Clean water exits through the side discharge spout of the hopper.



Specifications

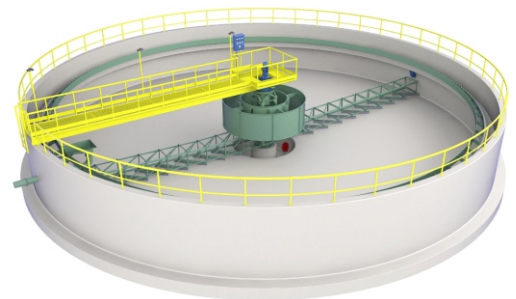
Capacity	: up to 90 m ³ /hr.
Screw dia	: 200 to 400mm
Shaft	: shafted/shaft less
Drive	: as required
Grit separation	: $\geq 90\%$ for particles up to 200 μ
Material of construction	: MSEP / SS304, SS316 (other on request)

PRIMARY TREATMENT

1- CLARIFIER/CLARIFLOCCULATOR/SLUDGE THICKNER

DESCRIPTION

Clarifiers / Clariflocculators are the settling tank where suspended / attached particle are settled down on the bottom of the tank then scraped it in a centered cone and then pumped out through sludge pump into the sludge thickner. Sludge thickner reduces the sludge volume for the sludge dryer. Sludge scrapper is motorized operated through drive head, center mechanism or turn table. This is catagorised like full bridge mounted, half bridge mounted or through all supported.



Specifications

Capacity	: as required
Size	: up to 60 m
Drive	: central drive up to 25m) / periphelar drive 25m to 60m
Walkway bridge mounting	: end to end & center pillar
Walkway	: bridges half & full
Drive head	: overload protection / Turn table
Final RPH	: 3-4 RPH
Material of construction	: MSEP / SS304,SS316 (other on demand)

MIXING & AERATION

1- AGITATOR / FLASH MIXER

DESCRIPTION

Agitator/flash mixer is motorized mixing equipment which is used for the mixing of chemical in chemical, flocculation or digester chamber. Generally used in sewage treatment plants/ effluent treatment plants, For rapid mixing of flocculent / coagulant into the water or to provide continues agitation to the solution to avoid settling.

Specifications

Type	: SPT-AGT – agitator / flash mixer
Motor Capacity	: 0.5 HP to 25 HP
Size range	: 0.5m dia / Sq tank to 8m dia / Sq tank, 0.5 m HT to 6.5m HT
Impeller type	: Pitch blade turbine, propeller type, paddle type & vertical flat blade turbine type
Material of construction	: MSEP / SS304, SS316 (other on demand)



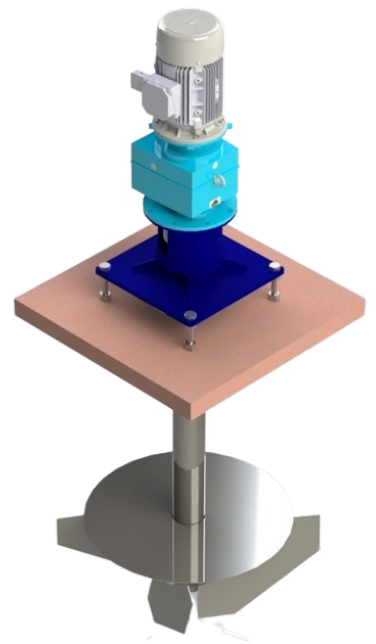
2- SURFACE AERATOR

DESCRIPTION

The Surface Aerator aspirates the water from the bottom and sprays it back on the surface. The spray is horizontally injected into the water surface over 360° and the turbulence creates micro bubbles which are pushed downwards. The result is maximum oxygen transfer efficiency. The flow pattern generates a perfect oxygen dispersion and full homogenization even in deep basins and on large surfaces. Generally used in sewage treatment plants/ effluent treatment plants, To improve the bod/cod levels in the effluent water by transferring oxygen from atmosphere.

Specifications

Type	: Floating type / fixing type
Motor Capacity	: 3 HP to 25 HP
Size range	: as required
Impeller type	: propeller type, vertical flat blade turbine type
Material of construction	: MSEP / SS304, SS316 (other on demand)



3- ASPIRATOR AERATOR

DESCRIPTION

The Series II Aspirator Aerator operates by creating a partial vacuum under the water, drawing air through the shaft and dispersing it into the water in a horizontal direction. As the propeller rotates, it induces a flow of atmospheric air through the air intake ports on the shaft located above the water surface. This air is then drawn through the shaft, past the propeller, and exits in a high-velocity stream of fine bubbles as it is diffused into the water.



Specifications

Type	: Floating type / fixing type
Motor Capacity	: 5 HP to 60 HP
Size range	: as required
Impeller type	: Mixing / Aeration
Material of construction	: MSEP / SS304, SS316 (other on demand)

4- FLOCCULATOR

DESCRIPTION

Flocculation is a water treatment process where solids form larger clusters, or flocs, to be removed from water. This process can happen spontaneously, or with the help of chemical agents. It is a common method of storm water treatment, wastewater treatment, and in the purification of drinking water.

Specifications

Type	: Fixing type
Motor Capacity	: as required
Size range	: as required
Impeller type	: Paddle type
Material of construction	: MSEP / SS304, SS316 (other on demand)



OIL SKIMMER

1- BELT TYPE OIL SKIMMER

DESCRIPTION

Belt oil skimmer efficiently removes oil from the surface of oily effluent. It works on the principle of the difference in surface tension of oil and water. A rotating endless oleophilic belt passes through the oily effluent, which breaks the surface tension of the water to attract and collect the floating oil. The belt is passed through a set of wiper blades where the oil is wiped off from both sides of the belt.

Specifications

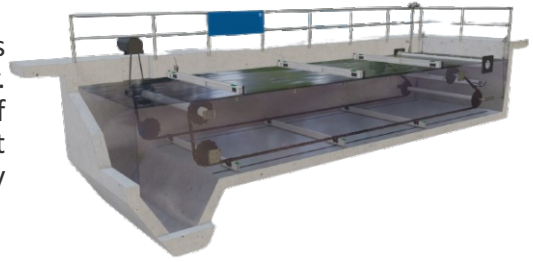
Type	: Belt type
Motor Capacity	: as required
Belt width	: 100-300mm
Material of construction	: MSEP / SS304, SS316 (other on demand)



2- API OIL SKIMMER (CHAIN TYPE)

DESCRIPTION

Coalescing Oil Water Separators are passive, physical separation systems designed for removal of oils, fuels, hydraulic fluids products from water. Skim Oil designed performance can be described by a combination of Stokes Law and current coalescing plate theory, wherein, the oil droplet rise rate and other parameters dictate the surface area required for gravity & coalescent separation.



Specifications

Type	: API (Chain Type)
Motor Capacity	: as required
Tank size	: as required
Material of construction	: MSEP / SS304, SS316 (other on demand)

SEQUENCE BATCH REACTOR (SBR) DECANTER

1-MECHANICAL DECANTER (HOIST TYPE)

DESCRIPTION



The Sequential Batch Reactor (SBR) is an activated sludge process designed to operate under sequences of various phases of biological treatment where aeration and sludge settlement both occurring in the same tank. The SBR design is a fill and draw type activated sludge process where individual reactors are filled one by one to perform five discrete operations in sequence i.e. Anoxic or oxic fill, React, Settle, Decant and Idle/Waste sludge. this is mechanical operated device .



Specifications

Capacity	: as required
Discharge size	: 100NB to 650NB
Material of construction	: SS304, Ss316 (other on demand)

2-FLOATING DECANTER

DESCRIPTION

Floating decanters are deployed to prohibit suspended solids from entering the decanter during the non-decanting process in the SBR tank. It consists of a weir for decanting supernatant liquid and a float for buoyantly supporting the weir. The rate of decantation is controlled by automatic valves or by pumping.

Specifications

Capacity	: as required
Discharge size	: 100NB to 350NB
Material of construction	: SS304, SS316 (other on demand)



STATIC MIXER

STATIC MIXER

DESCRIPTION

A static mixer is a device that mixes fluid materials without moving parts. It's made up of a housing (pipe) and mixing elements or tabs. The fluid flows through the mixer and mixes the product.



Specifications

Discharge size	: 50 NB to 150NB
Material of construction	: SS304, SS316 ,PVC (other on demand)

SAND & CARBON MEDIA FILTERS

SAND & CARBON MEDIA FILTERS

DESCRIPTION

Sand and carbon filtration are typically used for achieving supplemental removals of suspended solids and pathogens not destroyed by the clariflocculation process. Sand and carbon filtration are equipped with automated backwash system in order to keep a high level of efficiency.



Specifications

Discharge size	: as per required
Material of construction	: MSEP, SS304 (other on demand)

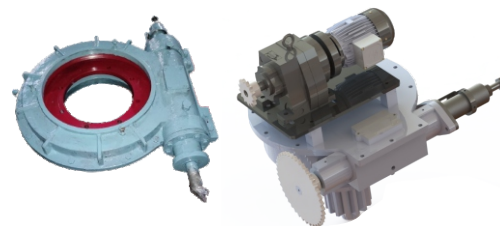
ALL TYPE DRIVE HEAD

DESCRIPTION

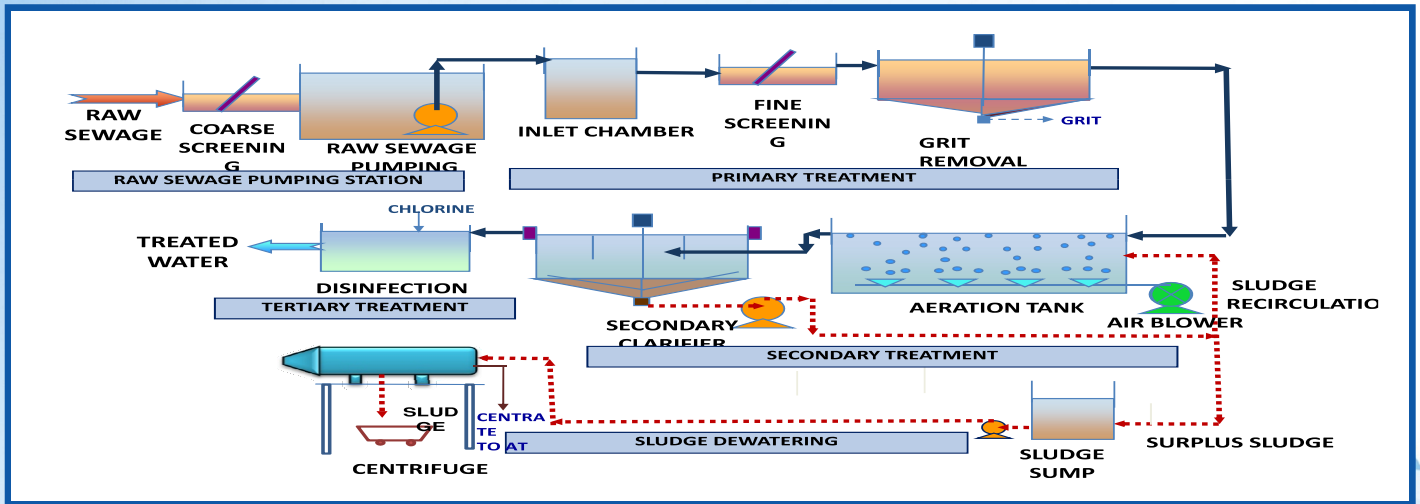
The drive head is the heart of the Thickener & Clarifier mechanism. Sedimentation drive generally operates at a relatively low value of output torque in a well-operated installation. As long as the solids input equals the solids output from the mechanism, torque will begin to climb and the alarm on the drive control will actuate to warn the operator to take corrective action. There are three types of drives which are mostly used in wastewater industries. Which is Bridge mounted, Turn table (center pier mounted) and Center drive mechanism. We at Sam Industry supply and manufacture these all types of drive heads.

Specifications

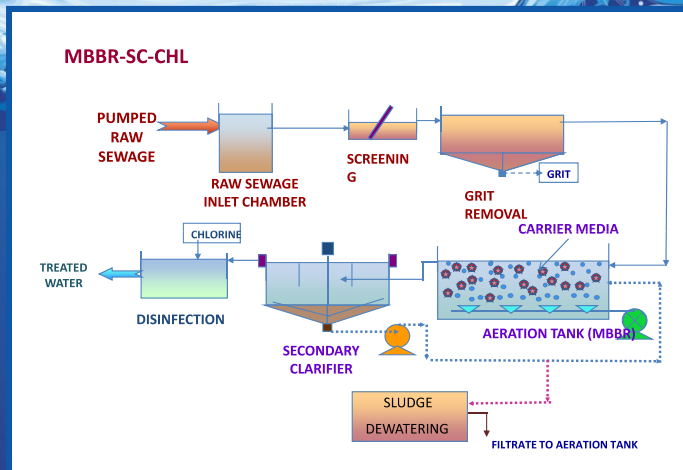
Mounting	: Bridge mounted, Center mounted.
Power	: as required
Chamber type	: Circular
Scraper mounting	: Vertical shaft/Centre cage
RPM	: as per request
Plane bearing	: Bronze
Gear and housing material	: Cast Iron (others on request)



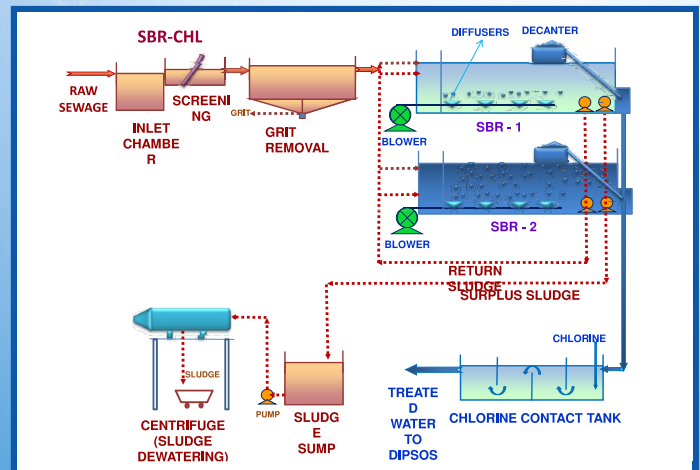
Typical Flow Diagram of Sewage Treatment Plant



Moing Bed Bio Rector (MBBR) Flow Diagram



Sequential Batch Rector (SBR) - Flow Diagram



Our Services :

- ❖ Waste Water Treatment
- ❖ Sewage Water Treatment
- ❖ Effluent Treatment Plan
- ❖ Installation & Maintenance



SAM INDUSTRY

For Water & Waste Water Treatment Solution

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