

Process Equipment Manufacturers

SEDIMENTATION | FILTRATION | MIXING

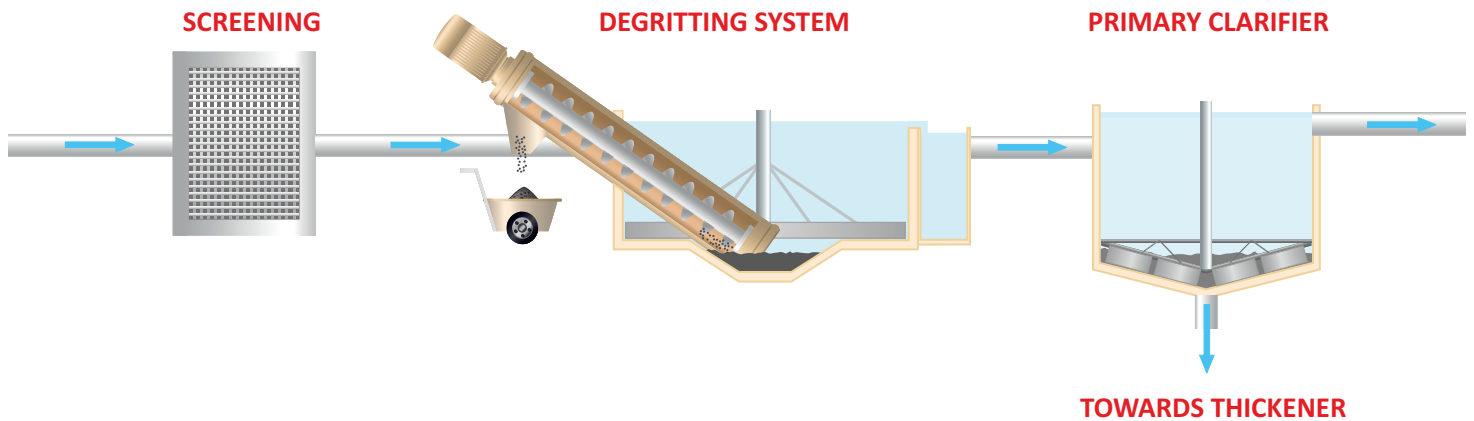
DEGRITTING



GRIT CHAMBER

Grit originates from domestic wastes, stormwater runoff, industrial wastes, pumpage from excavations, and groundwater seepage. It consists of inert inorganic material such as sand, cinders, rocks, gravel, cigarette filter tips, metal fragments, etc. In addition grit includes bone chips, eggshells, coffee grounds, seeds, and large food wastes (organic particles). These substances can promote excessive wear of mechanical equipment and sludge pumps, and even clog pipes by deposition.

Grit chambers should be provided for all wastewater treatment plants, and are used on systems required for plants receiving sewage from combined sewers or from sewer systems receiving a substantial amount of ground garbage or grit. Grit chambers are usually installed ahead of pumps and comminuting devices after bar screens and before primary sedimentation tanks

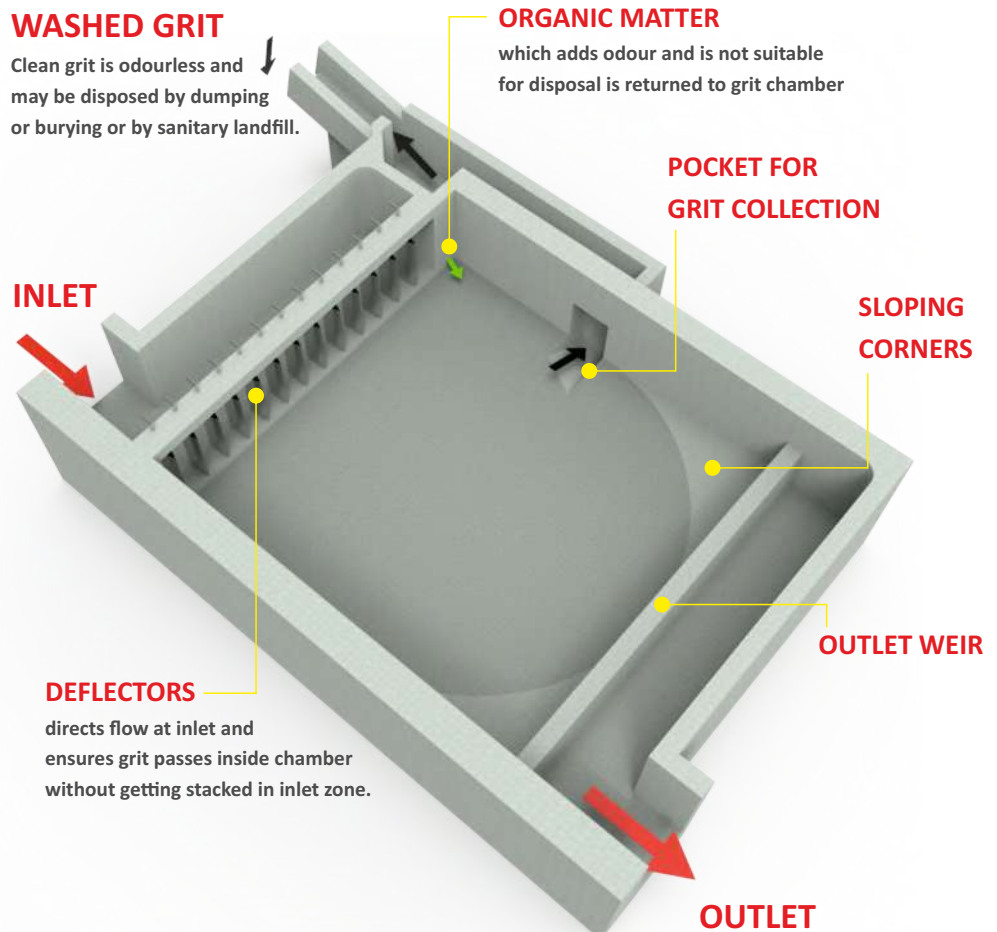


AS PER STANDARD

- IS 6279
- EN 12255-3

Process Design Teams usually consider the following parameters for designing the chamber:

- Surface overflow rate
- Settling velocity w.r.t. Grit size.
- Scour Velocity
- Retention time in Grit Chamber



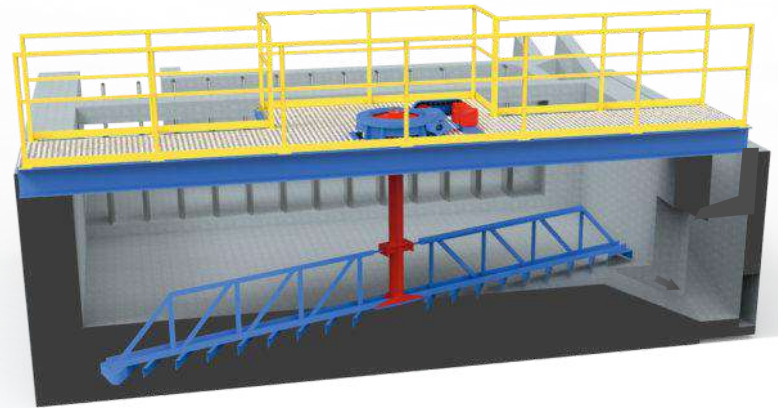
Continuous, mechanically operated grit chamber. Consists of rotating grit collecting mechanisms and a reciprocating rake washing mechanism. Capable of removing 95% of all plus 100 mesh grit at 2.65 specific gravity. Produces a substantially grit-free liquid and cleaned well-washed drained grit.

ENGINEERED TO LAST...

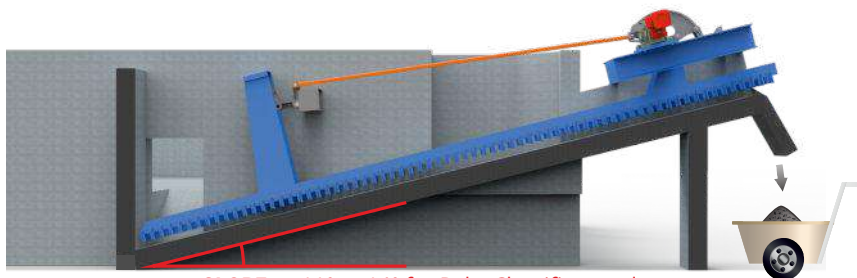
COLLECTING MECHANISM

- The Collecting Mechanism in Grit Chamber necessarily comprises of

- Bridge spanning the entire tank in MS/RCC.
- Scrapper arms 2 or more for pushing the grit into the bottom side wall opening to cleaning chamber.
- Scrapper Drive mechanism
- Velocity & Flow direction control deflectors from inlet/feed launder to the Grit chamber.
- Overflow weir for uniform overflow through one side of the Grit chamber to the outlet launder.
- **SIZES** - 2.5 Mtr SQ to 15 Mtr SQ
SWD 0.5 Mtr to 1.2 Mtr and in exceptional cases upto 3 Mtr with Grit pump.



CLEANING MECHANISM



SLOPE = 11° to 14° for Rake Classifiers and
= 15° to 25° for Screw Classifiers

The Opening on the bottom side wall of the RCC allows the grit to fall inside a deep trench in the classifier chamber.

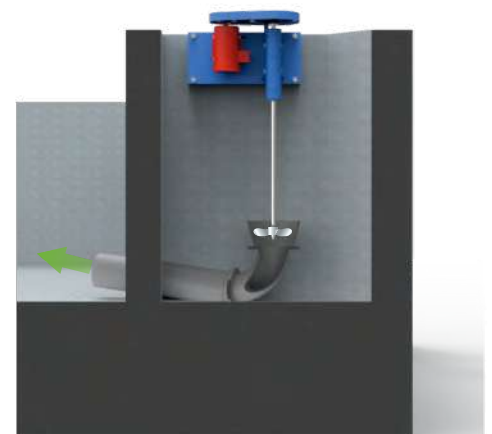
As both the compartments are always connected to each other the liquid level in Collecting and cleaning chambers are same.

The classifier mechanism consists of a reciprocating rake driven via a motorised gearbox or a spiral screw classifier which ensures the grit is conveyed upwards above the water level and discharged out of the grit chamber.

The collected grit is thoroughly washed by raking action or is spirally conveyed by a screw conveyor and is delivered from the top of the reciprocating/rotating classifier through a chute for disposal.

ORGANIC RETURN PUMP

- Washed organic liquor, lying in the classifier chamber, is returned back to the detritor collection chamber via the organic return open impellor pump/mixer.
- ORP is operated intermittently at equal intervals in a manner that no accumulation of organic floating matter causing foul smell.
- The mechanism works in a manner where a vortex creates suction of organic matter and disposes it to the mainstream flow in the grit chamber.



MATERIAL OF CONSTRUCTION

- AISI316, AISI304, HDGI, CS.

GRIT CLASSIFIERS

Classification in practice is the mechanical operation that aims to separate the solid constituent of a flowing pulp/slurry stream into two fractions one with relatively fine finished product called overflow and the other with coarse raked material called the "Grit/Sand"

Applications :

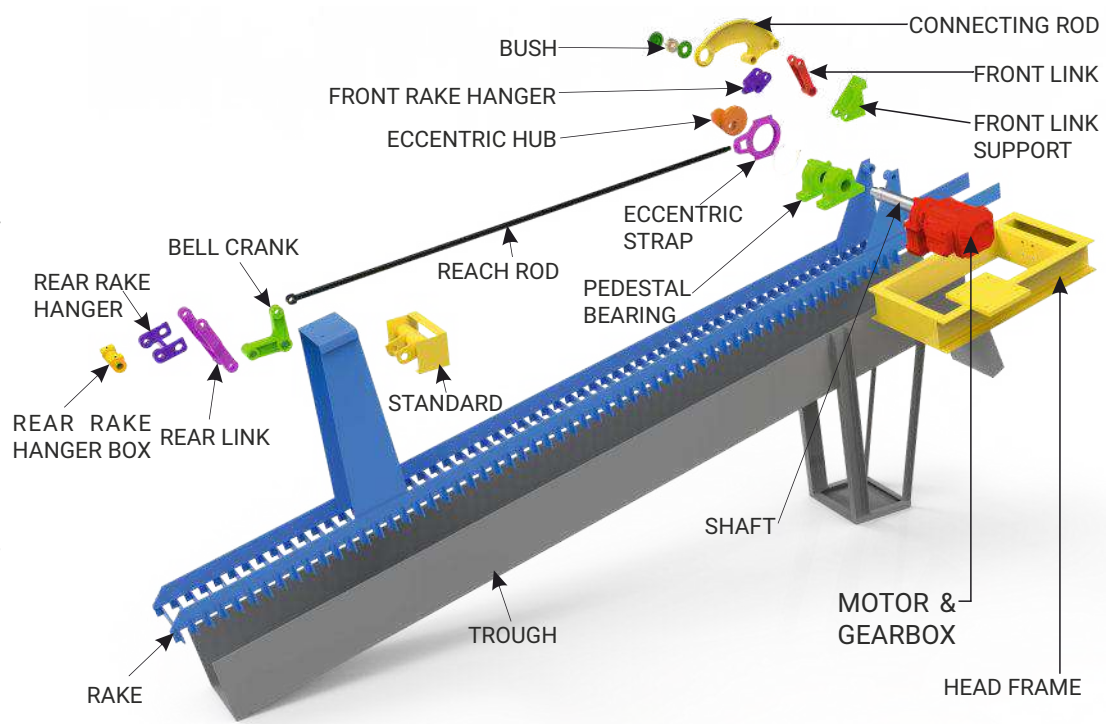
- Closed or open wet grinding circuits of virtually all types of ores.
- Classification in Mineral Industry like clay, Alumina, Red Mud, Iron ore etc.
- Foundry sand & Sand washing Reclamation system.

RAKE CLASSIFIER

This type of classifier constitutes Single or Double Reciprocating rake mechanism, which is ruggedly built with structural steel and is inclined at a specific angle (<Angle of Repose). An array of Linkages with Hinge Pin joints makes it possible for long rakes to give a uniform & consistent raking action at a very low energy. These robust mechanism is best known for its trouble free operation for years together.

The Rake mechanism facilitates higher grit removal using different Sizes i.e, 305mm, 460mm, 610mm, 760mm, 920mm in Single Rake construction while the capacity can be doubled using common drive & duplex Rake. And lengths ranging from 5 Mtr to 12 Mtr based on the Inclination angle and submergence in the trough.

Rake Classifiers are built over RCC or Metallic Troughs based on the application requirements.



SCREW CLASSIFIER



This type of Classifier consists of slow speed Single Screw enclosed in a half metal trough for positive material transfer ensuring higher rate of grit/sand disposal. Screw Diameter, length and angle of installation can be more flexibly designed to suit the application

requirements. Most common sizes are 250mm, 305mm, 406mm, 457mm and 508mm Dia. Screw Classifiers lengths ranging from 4 Mtr to 9 mtr can be built without any intermediate bearing support. **ENGINEERED TO LAST...**

INDOFAB INDUSTRIES

Process Equipment Manufacturers

ISO 9001:2015 Certified Company

INDOFAB INDUSTRIES is a well-known name for supply of Quality Process Equipments for past 36 years. The company has its legacy of working with top notch EPC contractors and Consultants, serving large size Project requirements for Government & Private Organizations.

INDOFAB is an ISO 9001:2015 Certified company for Design & Manufacture of Industrial Process Equipments in the field of solid-liquid separation; working for diverse Industries like WTP, ETP, STP, Municipal/Industrial Water & Waste Water Treatment, Paper & Pulp, Mineral Processing & Ore Beneficiation and Milk of Lime Plants.

The company has In-house Design, Testing, Pilot Facilities for Establishing its designs & continues to deploy latest Analysis/Design tools for Process Equipment Design. Combined with In-house Manufacturing Capacity with over 44000 Sq.Ft. Working area with 8 EOT Cranes facilitates working of about 100+ team turning out more than 1150 tons of steel per annum.

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Few of our Esteemed Clients / Consultants we work for



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