

S u s t a i n w a t e r

HEADWORKS

www.tikal-co.com



Mission

Preserve water resources from waste, non-use and pollution by providing innovative and affordable water treatment and irrigation systems that are more up-to-date with technology.



Vision:

Empowering our region to become a global role model in water resource protection by strategically addressing physical, chemical, and biological gaps.



Company overview

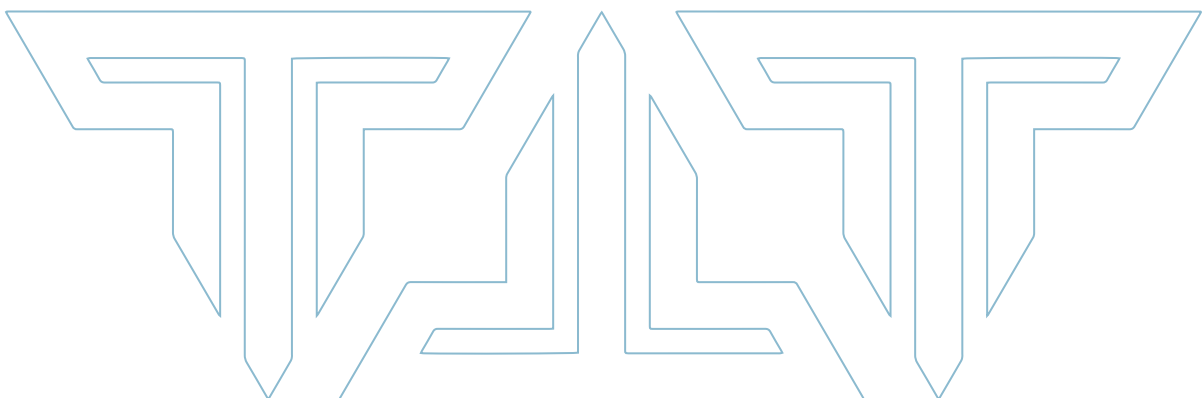
At Tikal Water & Irrigation Systems, we hold the belief that everyone deserves a sustainable environment free from pollution and resource wastage.

Tikal was Founded in 2019 by a group of engineers driven by initiative, innovation, and renewal, it was established to address the pressing challenges of untreated water, and unsustainable irrigation practices.

Our concern is to provide a range of integrated solutions and services that play a crucial role in physical, chemical, and biological challenges, and apply them through Vital national projects.

Tikal also attaches special importance to small communities by designing customized and intelligent solutions that allow using modern technologies and meet all needs and standards.

At Tikal, we aim to preserve and sustain water resources and are committed to delivering the latest solutions and services to our clients. To achieve this, we invest in research and development to enhance access to modern technologies and making a positive impact on the world.





Tikal Water Solutions

A. Utilities

«Through its water solutions, Tikal Company aims to simplify the process of preserving and benefiting from water resources by providing comprehensive and integrated solutions for most vital processes in water treatment, Through (Headworks) Tikal aims to provide Primary treatment one of the urgent roles in wastewater treatment, (Clarification) Our solution to remove of SS, Colloidal Particles, and impurities from raw water, Followed by)Filtration) to achieve the desired level of purity, and for Treatment and dispose of Sludge (Sludge treatment).

Tikal else provides physical solutions through (Pump Station) To prevent some harmful phenomena." these solutions have more than 71% coverage of basic water treatment processes and we aim to be up-to-date continuously.»



B. Small Communities:

TikalOne™, a pioneer division within our corporate framework, is strategically poised to revolutionize water treatment for small communities, ranging from 500 to 50,000 residents.

Born out of a commitment to excellence and guided by the principles of precision and innovation, TikalOne™ offers a visionary approach to integrated water solutions.

At its core, TikalOne™ is not just a brand; it's a scientific breakthrough in water treatment. Embracing the concept of modular intelligence, our bespoke systems, include Sea Water Reverse Osmosis (SWRO), Brackish Water Reverse Osmosis (BWRO), Munacibile water treatment (MW), MBBR (Moving Bed Biofilm Reactor), and SBR (Sequential Batch Reactor).

These units are designed to the distinctive characteristics of each water source. with cutting-edge, adaptable approach allows TikalOne™ to transcend traditional water treatment models. With a palette of technological sophistication and an unwavering commitment to sustainability,

TikalOne™ aspires to be the hallmark of professional water management, setting new standards for efficiency, reliability, and environmental consciousness.



TikalOne™

Tikal Water Treatment Excellence: Unveiling the First Steps

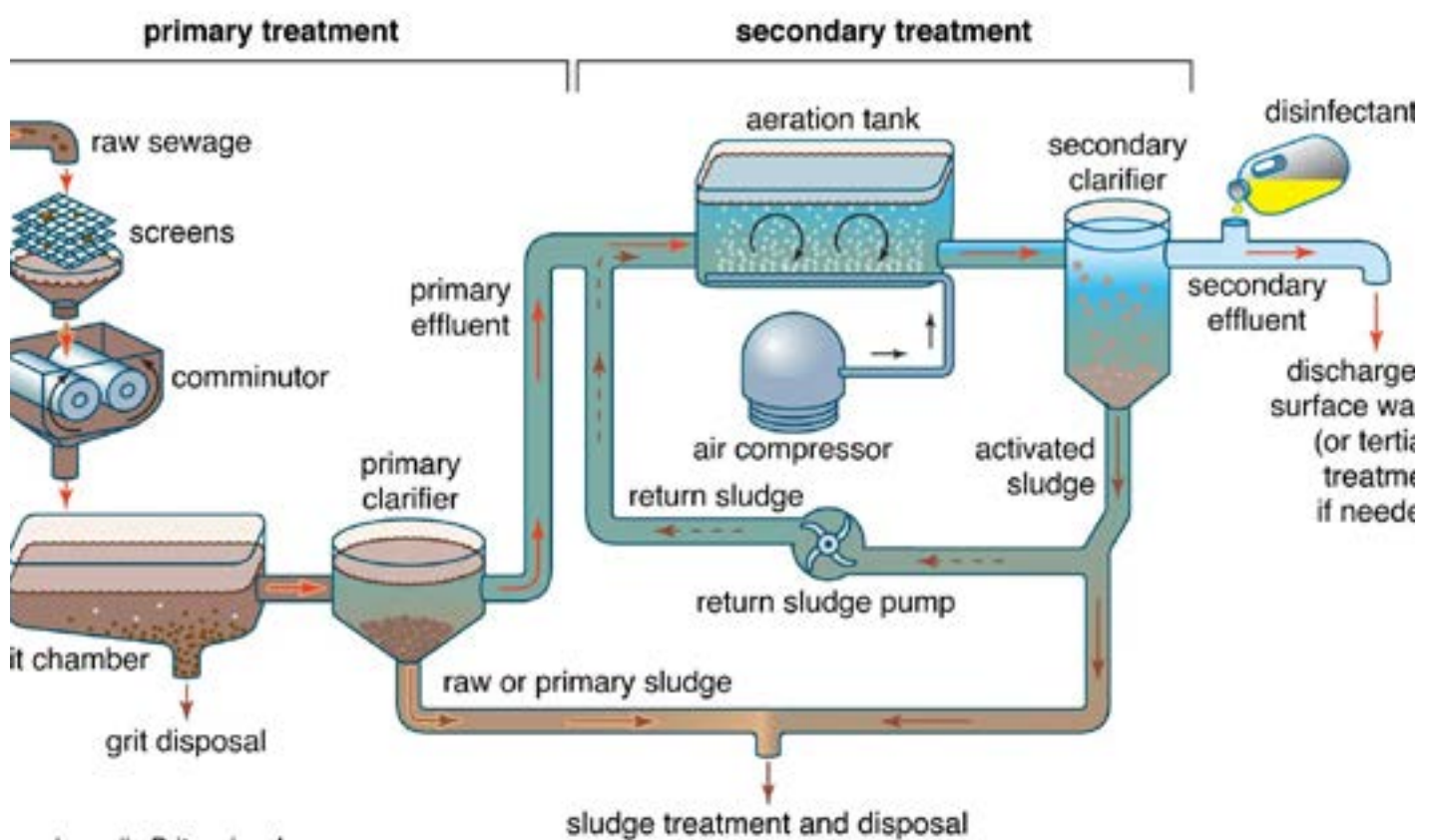
At Tikal, we redefine water treatment excellence, ensuring purity from the very beginning.

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Primary Treatment Process in Water Treatment:

In the journey towards clean water, our primary treatment process focuses on the physical removal of large suspended solids and particulate matter from raw water. This vital initial phase is essential for alleviating the burden of solids and impurities, paving the way for subsequent treatment stages. Taking place in settling tanks or basins, gravity aids in the settling of heavier particles to the bottom, leaving us with clarified water featuring reduced solids content. While adept at handling larger particles, it's important to note that primary treatment may not address dissolved contaminants or smaller suspended particles.



- **Headworks in Water Treatment:**

Welcome to the gateway of water treatment - the Headworks. This critical component marks the initial steps where raw water undergoes preliminary treatment before embarking on the main treatment process. Here's an overview of the key functions that make Headworks indispensable:



1. Screening:

- The raw water entering the treatment plant often contains debris, leaves, sticks, and other large objects. Screening involves the use of bar screens or fine mesh screens to remove these materials, preventing damage to pumps and equipment downstream.

2. Flow Measurement:

- Headworks includes instruments to measure the flow rate of incoming water. Accurate flow measurement is essential for proper plant operation and the dosing of treatment chemicals.

3. Grit Removal:

- Grit, consisting of sand, gravel, and other heavy particles, can cause wear and damage to pumps and equipment. Grit removal units, such as vortex chambers or detritus tanks, allow for the separation and removal of these abrasive materials.

4. Primary Sedimentation:

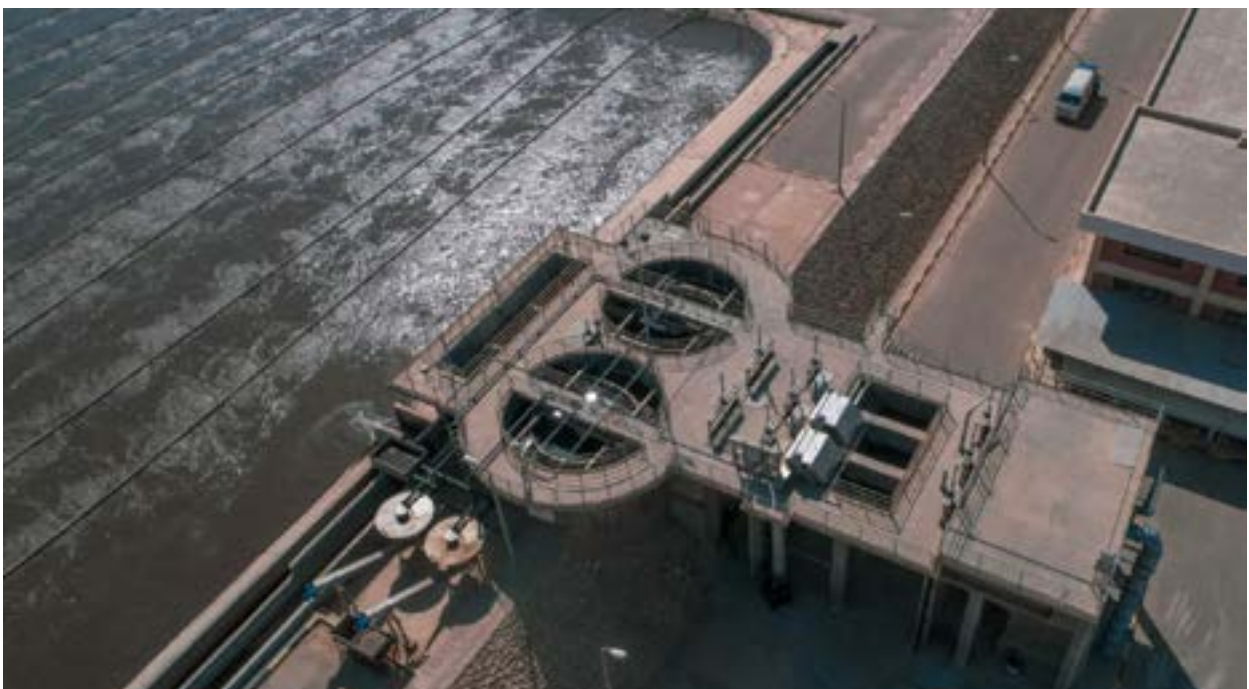
- In some treatment plants, especially those dealing with wastewater, primary sedimentation tanks may be part of the headworks. These tanks facilitate the settling of larger solids before the water proceeds to the main treatment process.

5. Chemical Addition:

- Depending on the characteristics of the raw water, certain chemicals may be added during headworks to aid in the coagulation and flocculation of suspended particles. This pre-treatment step enhances the efficiency of subsequent processes.

6. Inlet Structure:

- The inlet structure of headworks is designed to ensure a smooth and controlled entry of raw water into the treatment plant. This structure helps prevent turbulence and facilitates the subsequent processes.



Significance of Tikal Headworks:

•Protecting Downstream Processes:

Tikal Headworks plays a pivotal role in safeguarding downstream treatment units and equipment by removing large debris and abrasive materials that could cause damage.

•Ensuring Process Efficiency:

Effective Tikal Headworks guarantees that raw water entering the treatment plant is free from large objects and excessive grit, allowing subsequent treatment processes to operate with optimal efficiency.

•Optimizing Chemical Usage:

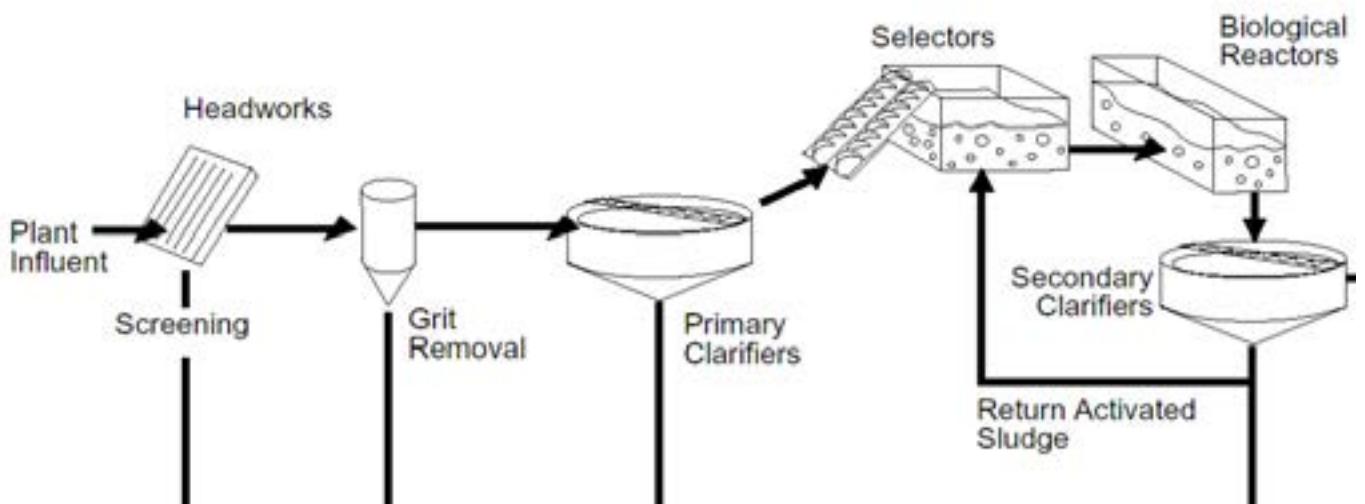
By providing an initial stage for chemical addition, Tikal Headworks allows for the optimization of coagulant and flocculant dosages based on the characteristics of the raw water.

•Preventing Clogging:

Removing large debris at Tikal Headworks prevents the clogging of pipes, pumps, and equipment in the treatment plant, significantly reducing maintenance requirements.

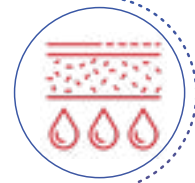
•Improving Water Quality:

Tikal Headworks significantly contributes to enhancing overall water quality by reducing the presence of visible impurities and shielding against potential damage to treatment infrastructure.



1. Technology Identification

- Identify and implement cutting-edge technologies for sludge management.



2. Process Design

- Tailor efficient processes to meet specific sludge treatment requirements.

3. Engineering

- Apply engineering expertise to optimize sludge treatment systems.



4. Project Execution

- Skillfully execute projects from conception to implementation.

4. Installation:

- Ensure precise installation of sludge treatment components.



6. Start-Up

- Facilitate seamless system initiation for optimal performance.

7. Commissioning & Performance Testing

- Rigorous testing to ensure sludge treatment systems meet performance standards.

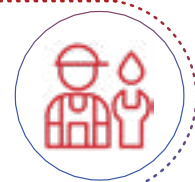


8. Rehabilitation

- Upgrade and rejuvenate existing sludge treatment infrastructure.

9. Maintenance & Installation

- Provide ongoing support for sustained efficiency in sludge treatment operations.



Tikal Products

Tikal Provides HeadWorks Products into Some Systems

1. Screening System:

Tikal Screening System for Superior STP Performance

At Tikal, we recognize the pivotal role that the screening system plays in water treatment, especially in the context of Sewage Treatment Plants (STPs). Our advanced screening solutions are tailored to efficiently remove larger debris, particles, and objects from raw water. This critical process not only safeguards downstream equipment but also ensures the smooth operation of subsequent treatment stages. Explore the comprehensive range of equipment in the Tikal Screening System:

• 1.1 Screens:

- Screens are instrumental devices featuring openings of varying sizes that permit water passage while capturing and retaining larger particles.

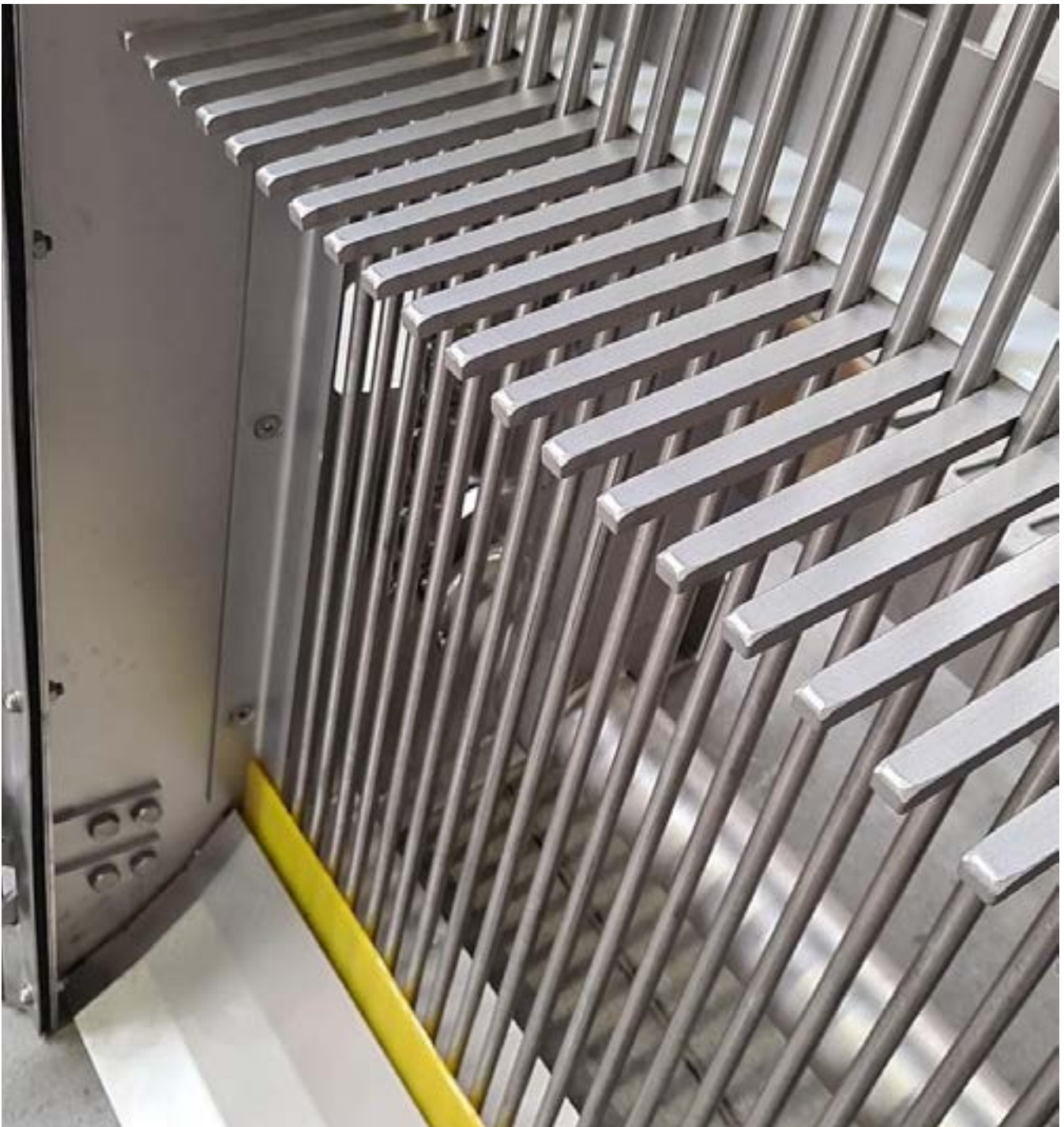
- Tikal offers different types of screens, including:

- a. bar screens
- b. Mechanical Coarse/fine screens
- c. Drum screens
- D. Spiral Screens

Bar screens have vertical or inclined bars to trap debris, while fine screens use smaller openings to capture finer particles. Drum screens rotate to separate solids from water.

A. Manual Bar Screen:

A manual bar screen is a type of mechanical screen used in water treatment plants to remove large debris and particles from raw water before it enters the treatment process. Unlike automatic or mechanically cleaned bar screens, manual bar screens require human intervention for the removal of debris. Here are the specifications and key features typically associated with manual bar screens:



• Installation and Configuration:

1. Inlet Configuration:

Manual bar screens are typically installed at the inlet of water treatment facilities, positioned to intercept and capture debris as water enters the treatment process.

2. Access and Maintenance:

Manual bar screens are designed to allow easy access for maintenance activities. This includes the removal of captured debris, cleaning of the bar rack, and general inspections.



• Design and Construction:

1. Bar Rack Structure:

Manual bar screens are typically installed at the inlet of water treatment facilities, positioned to intercept and capture debris as water enters the treatment process.

2. Manual Operation:

Manual bar screens are designed to allow easy access for maintenance activities. This includes the removal of captured debris, cleaning of the bar rack, and general inspections.

3. Bar Screen Characteristics:

Varied bar spacing, thickness, and profiles for optimal performance.



• Operation and Maintenance:

Manual Cleaning:

Personnel manually clean the bar screen by removing captured debris using tools such as rakes or brushes. This is typically done at regular intervals or as needed based on the accumulation of debris.

Inspection:

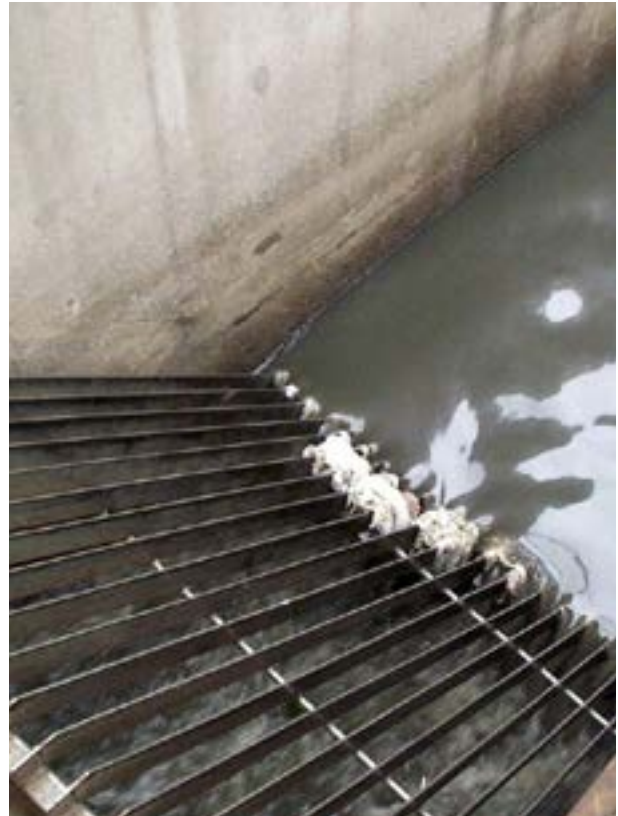
Routine inspections are conducted to assess the condition of the bars, check for any signs of wear or damage, and ensure proper functionality.

• Manual Bar Screen Advantages:

1. Simplicity

2. Cost-Effective

3. Reliability



B. Mechanical Screen:



Mechanical screens are devices used in water treatment plants to remove larger debris and particles from raw water before it enters the treatment process. Unlike manual bar screens, mechanical screens are designed to operate automatically or with minimal manual intervention. The specifications of mechanical screens can vary based on the specific type of screen, its application, and the characteristics of the water source. Below are key specifications and features associated with mechanical screens:

• Types of Mechanical Screens:

1. Coarse Bar Screens:

Bar Spacing:

The spacing between bars determines the size of debris that the screen can capture. Common spacing ranges from 10:25 mm

Bar Thickness:

Thicker bars contribute to the strength and durability of the screen.



2. Fine Bar Screens:

Bar Spacing:

The spacing between bars determines the size of debris that the screen can capture. Common spacing ranges from 3:6 mm

Bar Thickness:

Thicker bars contribute to the strength and durability of the screen.



• Operation and Automation:

1. Automatic Cleaning:

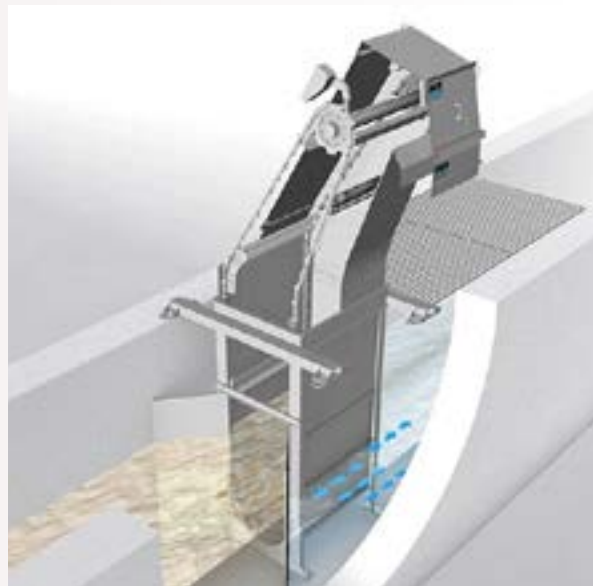
Mechanical screens are designed for automatic or semi-automatic cleaning to prevent clogging.

2. Scrapers or Brushes:

The screen may use mechanical scrapers or brushes to remove debris from the surface.

3. Control System:

Automated control systems govern the operation of mechanical screens, including cleaning cycles and maintenance alerts.



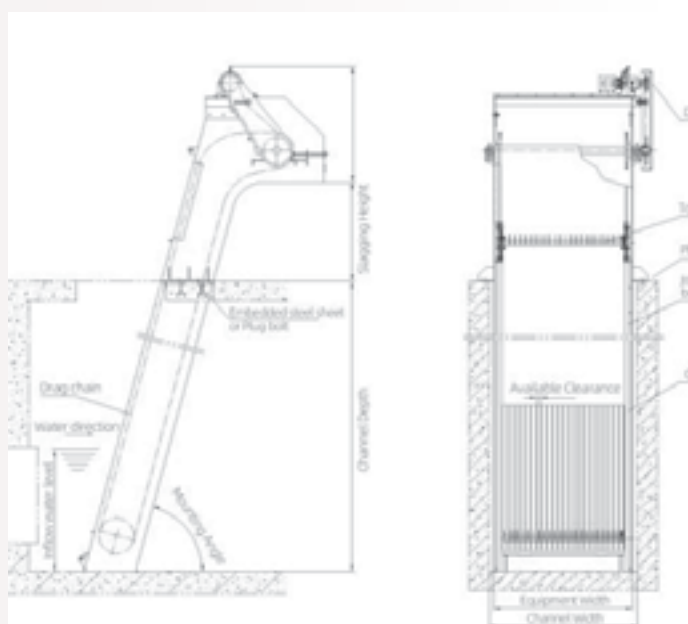
• Installation and Configuration:

1. Inlet Configuration:

Mechanical screens are typically installed at the inlet of water treatment facilities, positioned to intercept and capture debris as water enters the treatment process.

2. Screen Configuration:

Screens may be installed horizontally or vertically based on space constraints and the specific requirements of the water treatment plant.



C. Drum Screen:

1. Drum Diameter:

The diameter of the rotating drum affects the screen's capacity and efficiency.

2. Opening Size:

The size of openings in the drum determines the particles that can pass through.

3. Rotation Speed:

The speed at which the drum rotates influences the lifting and discharge of captured solids.



D. Spiral Screen:

1. Material:

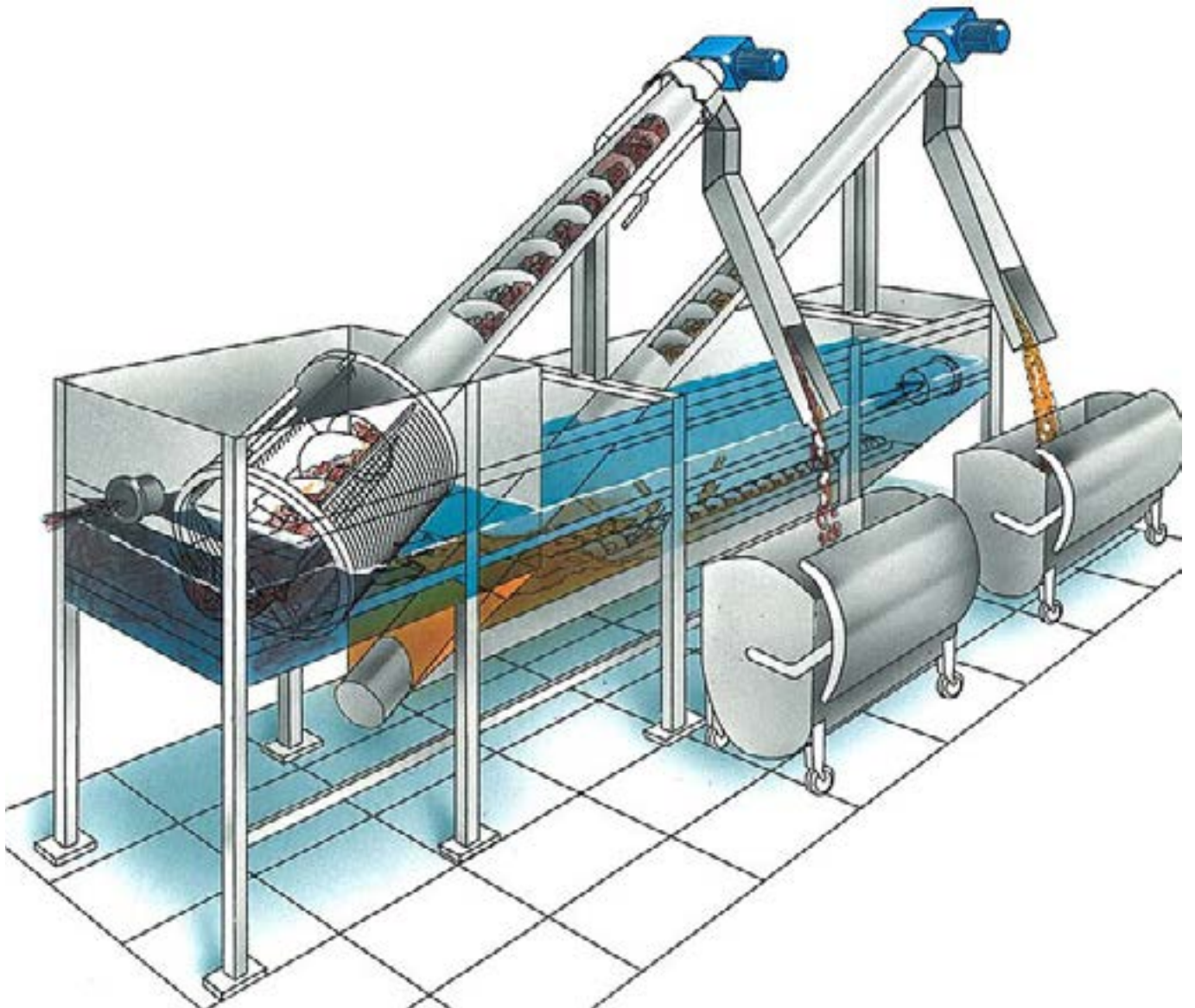
Screens are typically constructed from materials like stainless steel, which offers corrosion resistance.

2. Frame Structure:

The frame provides support for the screen structure and ensures stability during operation.

3. Drive Mechanism:

Mechanical screens are equipped with a drive mechanism, such as an electric motor, to power the movement of the screen elements.



• Screens Application and Use:

1. Raw Water Intake

Mechanical screens are deployed at the intake points of water treatment plants to intercept and capture large debris, preventing damage to downstream equipment.

2. Pre-Treatment:

They serve as a pre-treatment step, protecting pumps, valves, and fine screens from damage caused by larger and abrasive debris.

Screens Advantage

1. Efficiency:

Mechanical screens offer efficient removal of large debris, preventing clogging and damage to downstream equipment.

2. Automation:

The automated operation reduces the need for constant manual intervention, improving overall efficiency.

3. Versatility:

Mechanical screens can handle a range of debris sizes and are adaptable to different water treatment processes.

4. Reliability:

These screens are reliable and can operate continuously, contributing to the stability of water treatment operations.



1.2 Belt conveyor:

Tikal Belt Conveyors: Streamlining Material Handling in Wastewater Treatment



At Tikal, our Belt Conveyors stand as a testament to efficiency and reliability in transporting screened materials seamlessly from the screening unit to subsequent treatment processes or disposal points. In the intricate process of separating solid particles from liquid in wastewater, our Belt Conveyors play a crucial role in facilitating the movement of screened material for further processing. Explore the features and advantages that define our Belt Conveyors:

• Features:

1. Screened Material Handling:

- The primary purpose of the belt conveyor in a screening system is to handle and transport the screened material. This material may include screenings, debris, or other solid particles separated from the wastewater during the screening process.

2. Durable Belt Material:

- The conveyor belt is made of durable materials such as rubber or other synthetics to withstand the abrasive nature of the screened materials and the operational demands of the wastewater treatment environment.

3. Adjustable Incline:

- Equipped with variable speed controls, allowing operators to adjust conveyor speed based on material volume and characteristics for optimal efficiency.

4. Variable Speed Control:

- Variable speed controls allow operators to adjust the conveyor speed based on the volume and characteristics of the screened material, optimizing the efficiency of material transport.

5. Idlers and Pulleys:

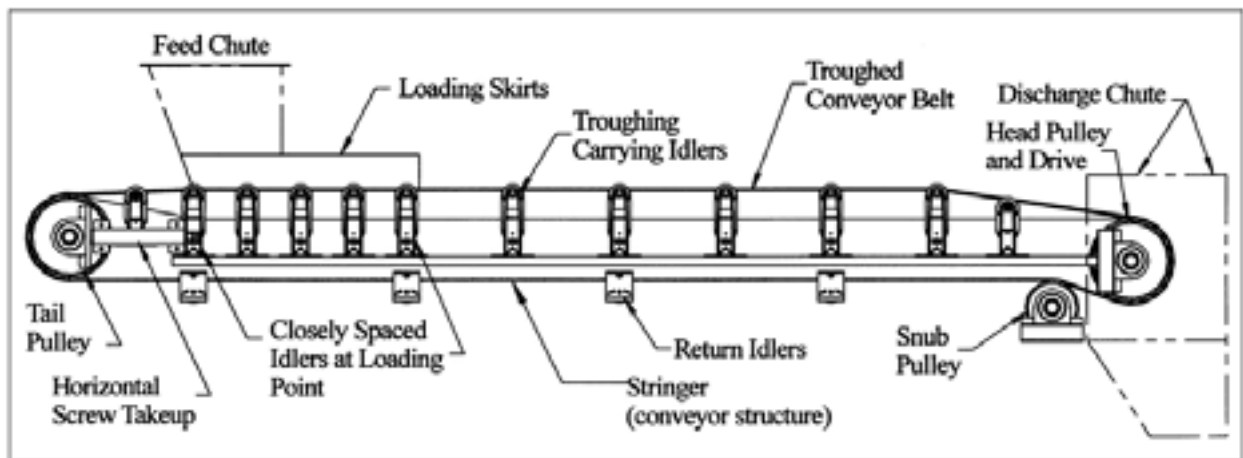
- Strategically placed idlers and pulleys guide and support the conveyor belt, ensuring smooth and reliable operation.

6. Cleaning Mechanisms

- Integrated with cleaning mechanisms such as scrapers and brushes to prevent material buildup, facilitating easy maintenance and keeping the belt free from debris.



• Design Considerations:



1. Material Compatibility:

- The design of the belt conveyor should consider the type and characteristics of the screened material to ensure that the conveyor components are resistant to wear and corrosion.

2. Incline and Decline:

- The conveyors incline or decline angle should be carefully designed to suit the layout of the treatment plant and the requirements of the downstream processes.

3. Capacity and Throughput:

- The design should account for the anticipated volume of screened material and the conveyors capacity to handle it efficiently.

4. Emergency Stop and Safety Features:

- Safety features such as emergency stop buttons and guards should be integrated into the design to ensure the safety of operators and maintenance personnel.

Belt conveyor Advantages

1. Efficient Material Handling:

- Belt conveyors provide a continuous and efficient means of transporting screened material, contributing to the overall efficiency of the wastewater treatment process.

2. Customization:

- The design of belt conveyors can be customized to meet the specific needs of the screening system, considering factors such as space constraints, material characteristics, and throughput requirements.

3. Reduced Manual Handling:

- The use of belt conveyors minimizes the need for manual handling of screened materials, reducing the risk of injuries and improving overall operational safety.

4. Integration with Downstream Processes:

- Belt conveyors seamlessly integrate with other treatment processes, allowing for a smooth transition of materials from the screening unit to subsequent stages of the wastewater treatment plant.

5. Operational Control:

- Variable speed controls provide operators with the flexibility to adjust the conveyor speed based on real-time conditions, optimizing material transport and processing efficiency.

Tikal Belt Conveyors - Elevating Efficiency, Ensuring Reliability in Material Transport for Wastewater Treatment.

1.3 waste box or container:

Tikal Waste Boxes: Efficient Solid Waste Management for Wastewater Screening Systems



At Tikal, our Waste Boxes are meticulously designed storage units dedicated to collecting and containing solid materials, such as screenings and debris, removed from wastewater during the screening process. Discover the features and advantages that make Tikal Waste Boxes the ideal solution for efficient solid waste management in wastewater treatment:

• Design Considerations:

1. **Location**
2. **Connection to Conveyor System**
3. **Drainage System (Option)**
4. **Ventilation (Option)**

- **Waste Box Features:**

1. Screened Material Handling
2. Lid or Cover (Optional)
3. Capacity
4. Integrated Level Sensors (Optional)

Waste Box Advantages

1. Efficient Solid Waste Management

2. Reduced Risk of Contamination

3. Convenient Maintenance and Disposal

5. Operational Continuity

4. Odor Control

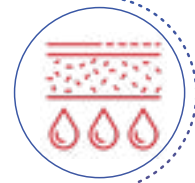
Product

Manual Screen, Mechanical coarse screen, fine screen, Drum screen, Belt conveyor & waste box

Tikal Screening System Service

1. Technology Identification

- Identify and implement cutting-edge technologies for sludge management.



2. Process Design

- Tailor efficient processes to meet specific sludge treatment requirements.

3. Engineering

- Apply engineering expertise to optimize sludge treatment systems.



4. Project Execution

- Skillfully execute projects from conception to implementation.

4. Installation:

- Ensure precise installation of sludge treatment components.



6. Start-Up

- Facilitate seamless system initiation for optimal performance.

7. Commissioning & Performance Testing

- Rigorous testing to ensure sludge treatment systems meet performance standards.

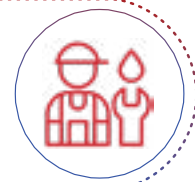


8. Rehabilitation

- Upgrade and rejuvenate existing sludge treatment infrastructure.

9. Maintenance & Installation

- Provide ongoing support for sustained efficiency in sludge treatment operations.



Tikal Products

Tikal Provides HeadWorks Products into Some Systems

2. Controlling System

Tikal Water Control Solutions: Precision, Reliability, and Efficiency

At Tikal, our water control solutions are engineered to bring precision, reliability, and efficiency to your water treatment processes. Our meticulously designed gates and penstocks play a crucial role in regulating water levels, managing flow rates, and facilitating seamless movement through different treatment units.

• Types:

A. Stop Logs:

- Vertically placed barriers or beams for adjustable flow control.
- Made of wood, steel, or durable materials.
- Ideal for weirs, sluice gates, and channels.
- Provides a temporary solution for flow control, manually adjusted based on water level.



B. Penstock:

- Large gate-controlled pipes or conduits.
- Handles high-pressure water flows.
- Equipped with gates or valves for precise flow regulation.



- Types include Slide or Sluice Gate Penstock, Isolation gate, and Channel water control.

1. Slide or Sluice Gate Penstock:

- This type of penstock incorporates a sliding gate that can be raised or lowered to control the flow of water. Slide gate penstocks are commonly used in water treatment plants and other hydraulic structures.

2. Isolation gate

3. Channel water control

- Location:



1. Inlet Structures:

- Control entry of raw water into the facility.

2. Outlet Structures:

- Manage discharge of treated water.

3. Between Treatment Units:

- Strategically placed to direct water through specific treatment processes.

• Design Considerations:

1. Flow Capacity:

- The design considers the anticipated flow capacity of the water treatment plant, ensuring that gates can handle the required volume of water.

2. Head Loss:

- Design factors in head loss, minimizing energy losses associated with water flow through the gates.

3. Environmental Conditions:

- The materials and coatings used in construction are selected based on the specific environmental conditions of the treatment plant, considering factors like water chemistry and temperature.

Controlling System Advantages

1. Flow Control:

- Precise control over water flow for effective treatment process management.

2. Maintenance Flexibility:

- Allows easier maintenance and repairs without disrupting the entire treatment process.

3. Efficiency Improvement:

- Contributes to overall efficiency by optimizing water distribution and flow rates.

4. Emergency Management:

- Quick closure capabilities in emergencies to prevent further damage or control water release.

5. Long-Term Durability:

- High-quality materials and robust construction for long-term durability, reducing the need for frequent replacements or repairs.

Application: _____

1. Flow Control:

- Gates and penstocks are used to regulate the flow of water into different treatment units, such as sedimentation basins, clarifiers, and filtration systems.

2. Isolation:

- They are employed to isolate specific sections of the treatment process, allowing for maintenance, repairs, or adjustments without affecting the entire system.

3. Flood Control:

- In some cases, gates are used for flood control, managing water levels during periods of heavy rainfall or flooding.

4. Water Distribution:

- Penstocks can be utilized to distribute water from one point to another, ensuring an even and controlled flow through various stages of the treatment process.



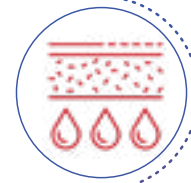
Product

Stop log, , Slide or Sluice Gate Penstock, Isolation gate, Channel water control.

Tikal Controlling System Service

1. Technology Identification

• Identify and implement cutting-edge technologies for sludge management.



2. Process Design

• Tailor efficient processes to meet specific sludge treatment requirements.



3. Engineering

• Apply engineering expertise to optimize sludge treatment systems.



4. Project Execution

• Skillfully execute projects from conception to implementation.



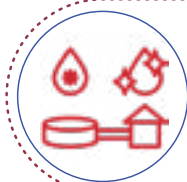
4. Installation:

• Ensure precise installation of sludge treatment components.



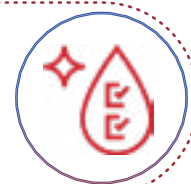
6. Start-Up

• Facilitate seamless system initiation for optimal performance.



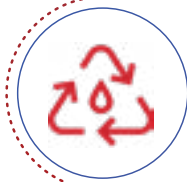
7. Commissioning & Performance Testing

• Rigorous testing to ensure sludge treatment systems meet performance standards.



8. Rehabilitation

• Upgrade and rejuvenate existing sludge treatment infrastructure.



9. Maintenance & Installation

• Provide ongoing support for sustained efficiency in sludge treatment operations.



Tikal Products

Tikal Provides HeadWorks Products into Some Systems

3. Separating System

Tikal Separation Solutions: Enhancing Treatment Precision

At Tikal, our separation stage between screening and primary sedimentation is a dedicated treatment step engineered for the meticulous removal of fine grit and grease from wastewater. Grit, comprising heavy inorganic materials like sand and gravel, and grease, including fats and oils, are efficiently separated to elevate the quality of your water treatment process.

Purpose: _____

1. Protecting Equipment:

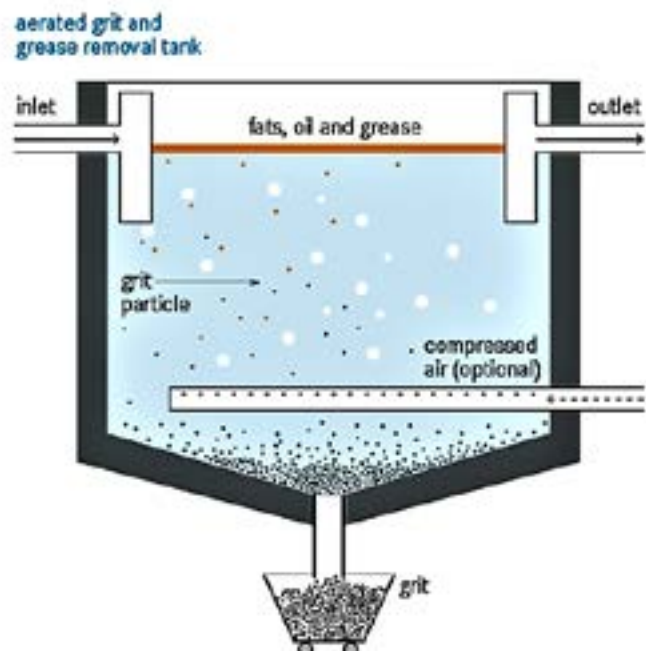
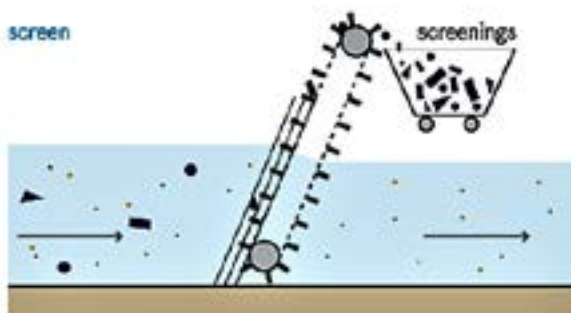
- Safeguarding downstream processes and equipment by eliminating abrasive grit and grease, reducing maintenance needs.

2. Preventing Settling Issues:

- Facilitating efficient settling to prevent issues related to the accumulation of fine particles.

3. Maintaining Treatment Efficiency:

- Contributing to the overall effectiveness and efficiency of the water treatment process.



• Separating System Features:

1. Grit Removal Mechanism:

Utilizes advanced mechanisms like grit classifiers, vortex separators, or similar devices for enhanced settling and removal of grit particles.

2. Grease Removal:

Incorporates skimming devices and other effective means to remove floating grease and oils from the wastewater.

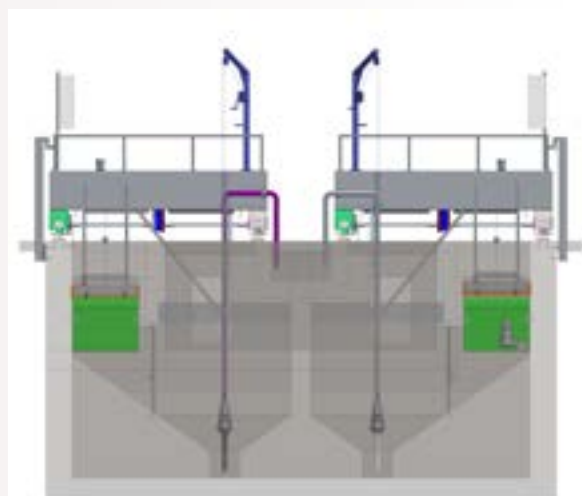


• Design Considerations:

1. Hydraulic Design: The design considers the hydraulic characteristics to ensure proper flow patterns and settling of grit and grease.

2. Particle Size Consideration: The design takes into account the size and density of grit and grease particles to optimize their removal.

3. Efficient Settling: The design aims to create conditions conducive to the efficient settling of grit and grease in the designated chamber.



Separating System Advantages

1. Protects Downstream Processes:

By removing grit and grease, the separating stage safeguards primary sedimentation tanks and subsequent treatment units, reducing maintenance needs.

2. Enhances Treatment Efficiency:

The removal of fine particles contributes to the overall effectiveness and efficiency of the water treatment process.

3. Prolongs Equipment Life:

Protecting pumps, pipes, and other mechanical components from abrasion helps extend their operational life.



At Tikal, we are committed to delivering separation solutions that elevate the precision and reliability of your water treatment process. Trust us for cutting-edge technologies that safeguard your equipment and enhance overall treatment efficiency

3.1 Grit Removal:

Grit removal is a critical process in water treatment plants designed to eliminate grit particles from wastewater. Grit consists of small, dense particles like sand, gravel, and other heavy solids that can cause abrasion and damage to downstream equipment if not removed. The grit removal process helps protect pumps, pipes, and other mechanical components in the treatment plant, ensuring efficient and smooth operation of the overall treatment process.



1. Aerated Grit Chambers:

- **Description:** Aerated grit chambers introduce air to create turbulence, facilitating the separation of grit particles. The aerated water helps keep lighter organic materials in suspension while allowing grit to settle.

- **Application:** Aerated grit chambers are effective in treating wastewater with a high organic content and are suitable for larger treatment plants.

- **Application:**

1. Primary Treatment:

- Grit removal is typically one of the preliminary treatment steps in a water treatment plant, occurring before primary sedimentation and biological treatment processes.

2. Protection of Equipment:

- The primary goal of grit removal is to protect downstream equipment, such as pumps, valves, and pipes, from abrasion and damage caused by gritty particles.

2. Prevention of Sedimentation:

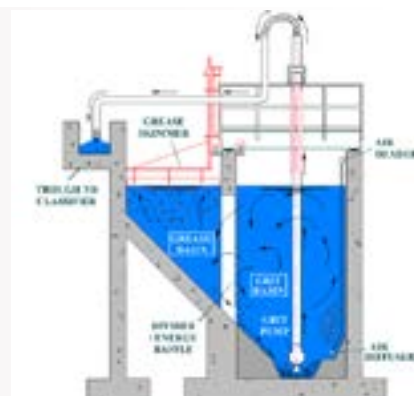
- Removing grit prevents the accumulation of abrasive materials in settling tanks and prevents sedimentation in subsequent treatment stages.



• Grit Removal Features:

1. Grit Classifier:

- Many grit removal systems incorporate a grit classifier, which helps separate organic material from the grit, ensuring efficient grit removal without unnecessarily removing organic matter.



2. Automatic Grit Collection:

- Some modern grit removal systems feature automatic collection mechanisms to continuously or intermittently remove settled grit, minimizing manual intervention.

• Design Considerations:

1. Flow Rate and Velocity:

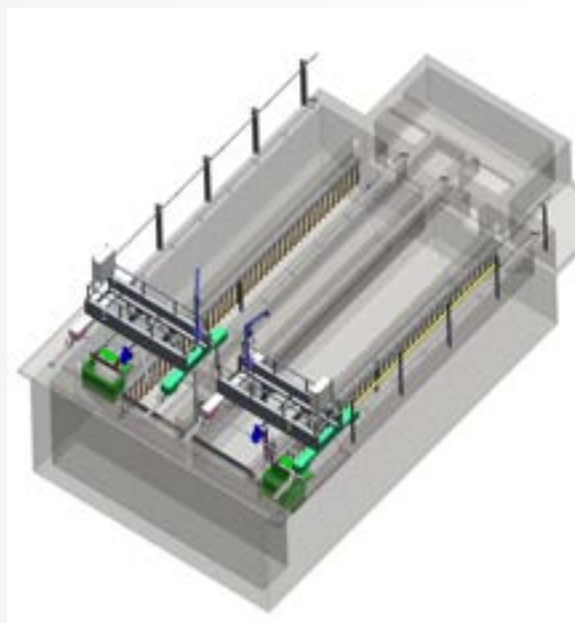
- Grit removal systems are designed to accommodate the flow rates of the incoming wastewater, ensuring that the velocity is sufficient for effective grit settling.

2. Grit Chamber Geometry:

- The design of the grit chamber, whether gravity-based, aerated, or vortex, involves considerations of chamber geometry to optimize the settling and removal of grit particles.

2. Grit Sump Design:

- The design of the grit sump, where settled grit is collected, includes features to facilitate easy removal and disposal of the grit.



Grit Removal Advantage

1. Equipment Protection:

Tikal's grit removal solutions protect downstream equipment, extending the operational life of pumps, valves, and pipes.

2. Prevent Sedimentation:

Removal of grit minimizes the potential for sedimentation in settling tanks, ensuring the ongoing efficiency of the treatment process.

3. Operational Efficiency:

Effective grit removal enhances the overall operational efficiency of water treatment plants, reducing the need for maintenance and unplanned shutdowns.

4. Improved Treatment Performance:

Tikal's grit removal solutions ensure downstream treatment processes operate more effectively, free from interference caused by abrasive grit particles.



3.2 Sand Separator:

Product: Automatic Backwashing Sand Separator

A paramount component in water treatment, the Tikal Sand Separator is meticulously designed to remove sand and fine particles from water, safeguarding downstream equipment, optimizing filtration units, and upholding treated water quality.



• Application:

1. Pre-filtration for Downstream Processes:

Sand separators act as a crucial pre-filtration step before water enters downstream treatment processes, preventing equipment damage and enhancing the performance of subsequent filtration units.

2. Protection of Pumps and Valves:

Safeguarding pumps, valves, and other mechanical components, sand separators mitigate abrasion and wear caused by sand and solids in the water.

3. Irrigation Systems:

In agricultural settings, Tikal Sand Separators are pivotal in irrigation systems, removing sand and sediment before water reaches the distribution system, preserving crop health..

4. Industrial Processes

Industries, including manufacturing and mining, rely on Tikal Sand Separators to eliminate abrasive particles from water used in diverse processes, safeguarding machinery and ensuring product quality.



• Sand Separator Features:

1. Automatic Backwashing:

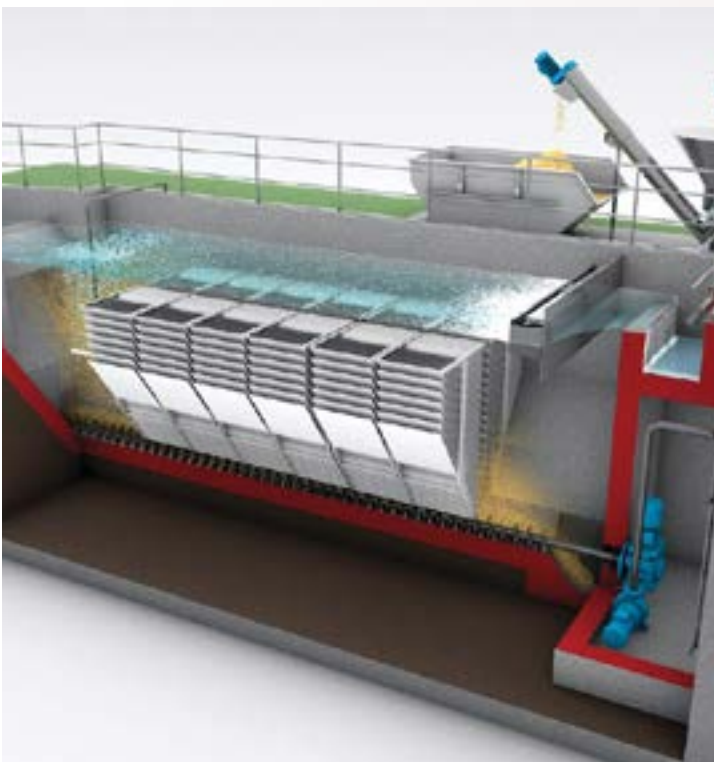
Sand separators act as a crucial pre-filtration step before water enters downstream treatment processes, preventing equipment damage and enhancing the performance of subsequent filtration units.

2. Durable Construction:

Safeguarding pumps, valves, and other mechanical components, sand separators mitigate abrasion and wear caused by sand and solids in the water.



• Design Considerations:



1. Flow Rate and Velocity:

The Tikal Sand Separator design meticulously considers water flow rate and velocity, ensuring effective separation without inducing turbulence or inefficiency.

2. Particle Size:

Tailored to the size of particles to be separated, the design incorporates appropriate filtration mechanisms and screen filter opening sizes.

Tikal Sand Separator Advantage

1. Equipment Protection:

Tikal Sand Separators provide unparalleled protection for downstream equipment, extending the lifespan of critical components by preventing abrasive wear.

2. Reduced Maintenance Costs:

By eliminating sand and solids from water, Tikal Sand Separators significantly reduce maintenance costs associated with repairing or replacing damaged equipment.

3. Improved Filtration Efficiency:

Enhancing the efficiency of downstream filtration units, Tikal Sand Separators prevent clogging and extend the life of filter media.

4. Maintained Water Quality:

Tikal Sand Separators play a pivotal role in maintaining the quality of treated water, ensuring compliance with regulatory standards and suitability for intended applications.

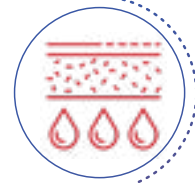
Product

Grit Removal, Sand silo, Sand separator & waste box

Tikal Separating System Service

1. Technology Identification

• Identify and implement cutting-edge technologies for sludge management.



2. Process Design

• Tailor efficient processes to meet specific sludge treatment requirements.



4. Project Execution

• Skillfully execute projects from conception to implementation.

4. Installation:

• Ensure precise installation of sludge treatment components.



6. Start-Up

• Facilitate seamless system initiation for optimal performance.

7. Commissioning & Performance Testing

• Rigorous testing to ensure sludge treatment systems meet performance standards.

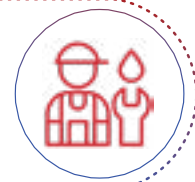


8. Rehabilitation

• Upgrade and rejuvenate existing sludge treatment infrastructure.

9. Maintenance & Installation

• Provide ongoing support for sustained efficiency in sludge treatment operations.



4. Tikal Screen & Grit Removal Compact: Streamlined Preliminary Treatment

- **Application:**

The Tikal Screen & Grit Removal Compact finds widespread application in municipal wastewater treatment plants and industrial facilities. This essential component efficiently eliminates a diverse range of particles from influent water, serving as a preliminary treatment step before the wastewater advances to subsequent stages like primary sedimentation, biological treatment, or final filtration.

- **Design Considerations:**



1. **Flow Rate and Velocity:**

The Tikal design meticulously considers influent wastewater flow rate and velocity, optimizing screening and grit removal efficiency.

2. **Screen Size and Type:**

Critical to effective particle capture and minimizing the potential for clogging, the system employs carefully chosen screen sizes and types.

3. **Grit Chamber Design:**

The grit removal chamber is intelligently designed to facilitate efficient settling and collection of grit particles, with options such as vortex systems or grit classifiers.

• Tikal Screen & Grit Removal Compact Features:

1. Screening Mechanism:

The compact system integrates a robust screening mechanism adept at capturing larger solids such as debris, leaves, and plastics, preventing their entry into downstream treatment units.

2. Grit Removal Mechanism:

An effective grit removal component is included to separate and collect smaller, denser particles like sand and gravel, addressing particles that might have passed through the screening stage.

3. Compact Design:

Crafted with a focus on space efficiency, the system boasts a compact design, making it ideal for plants with limited space without compromising its screening and grit removal capabilities.

4. Automated Operation:

Many modern Tikal systems feature automated operation, enabling continuous or semi-continuous removal of screenings and grit without necessitating constant manual intervention.



Tikal Screens & Grit Removal Compact Advantage

1. Comprehensive Primary Treatment:

The compact system provides an all-encompassing solution for preliminary treatment, effectively addressing both large and fine particles in influent water.

2. Equipment Protection:

By removing screenings and grit, the Tikal system shields downstream equipment, including pumps, valves, and pipes, from potential damage and abrasion.

3. Improved Efficiency:

: The integrated design enhances the overall efficiency of the water treatment process, optimizing the removal of a diverse range of particles.

4. Space Efficiency:

Particularly advantageous for water treatment plants with limited space, the compact design ensures efficient particle removal without requiring extensive infrastructure.

5. Reduced Maintenance:

Automated operation and an efficient design contribute to reduced maintenance requirements, rendering the system more reliable and cost-effective.

Product

Tikal Screen & Grit Removal Compact with Waste Box

Why Choose Tikal?



• Innovation:

Embracing cutting-edge technology in design and execution.



• Safety:

Implementing features to prevent equipment failure and operational risks.



• Reliability:

Ensuring robustness through redundant systems.



• Efficiency:

Optimizing energy usage and overall operational costs.

Tikal other Solutions?



Your Challenges Are Our Concerns.

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