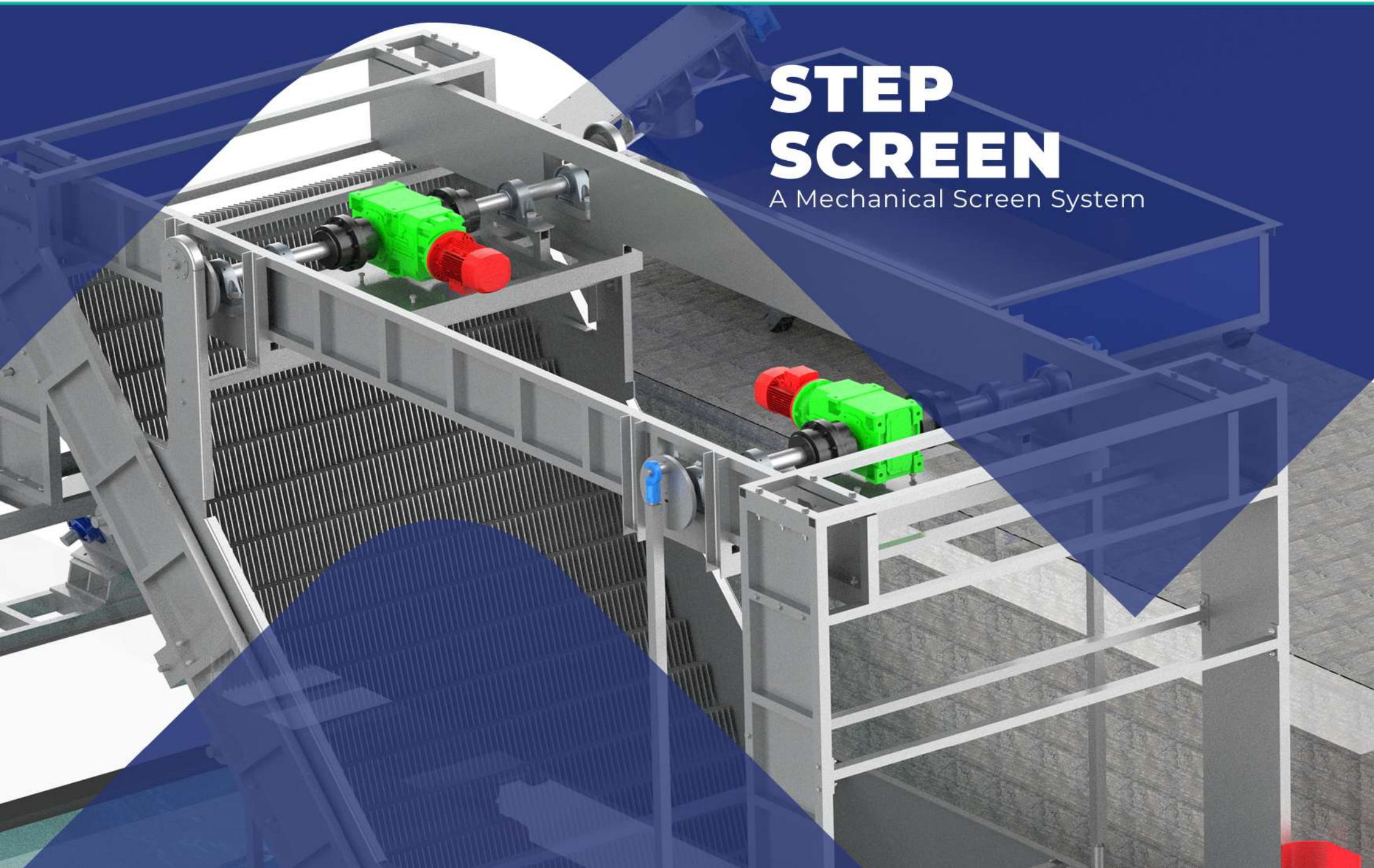
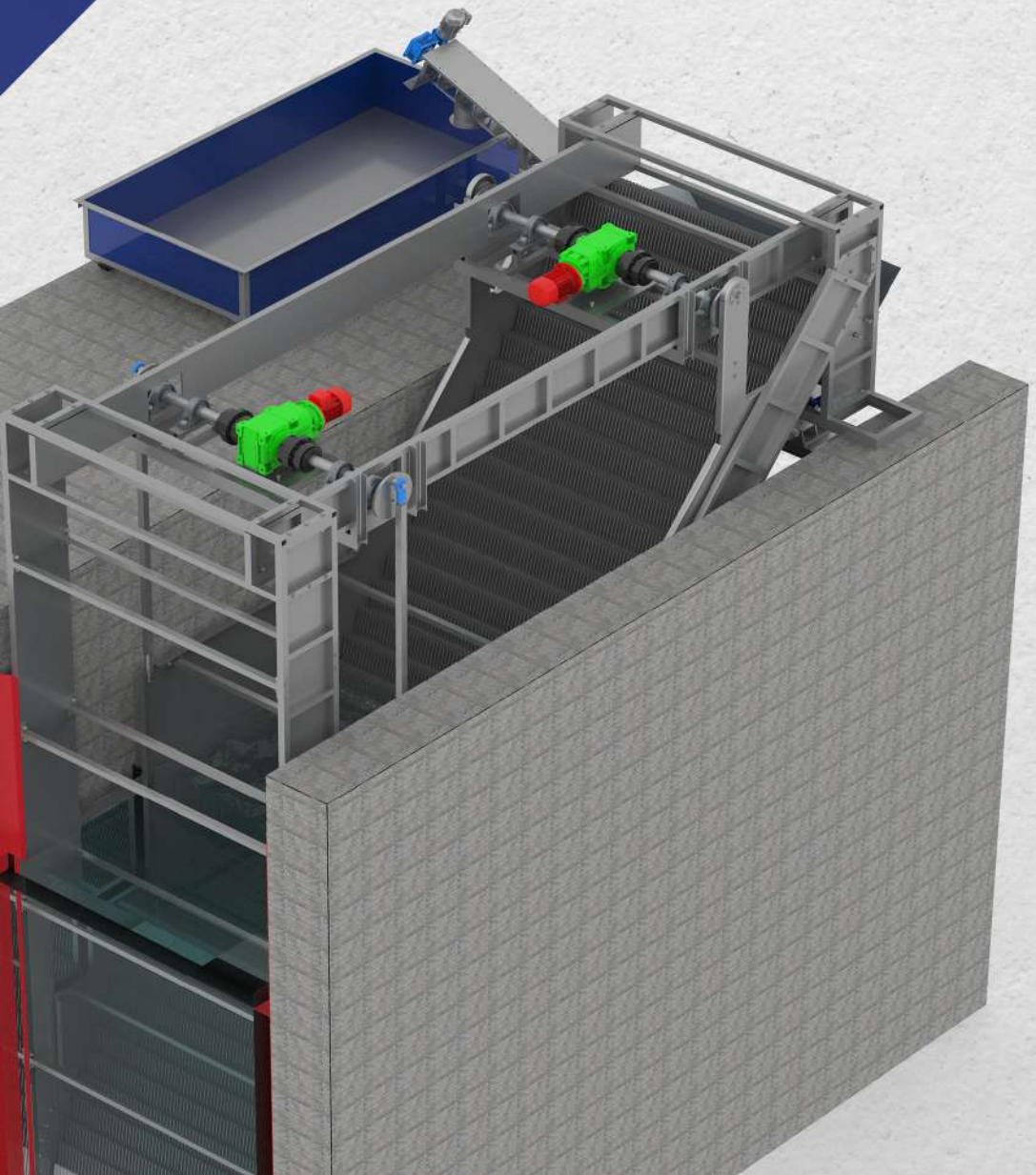
POTENTIAL ENGINEERING

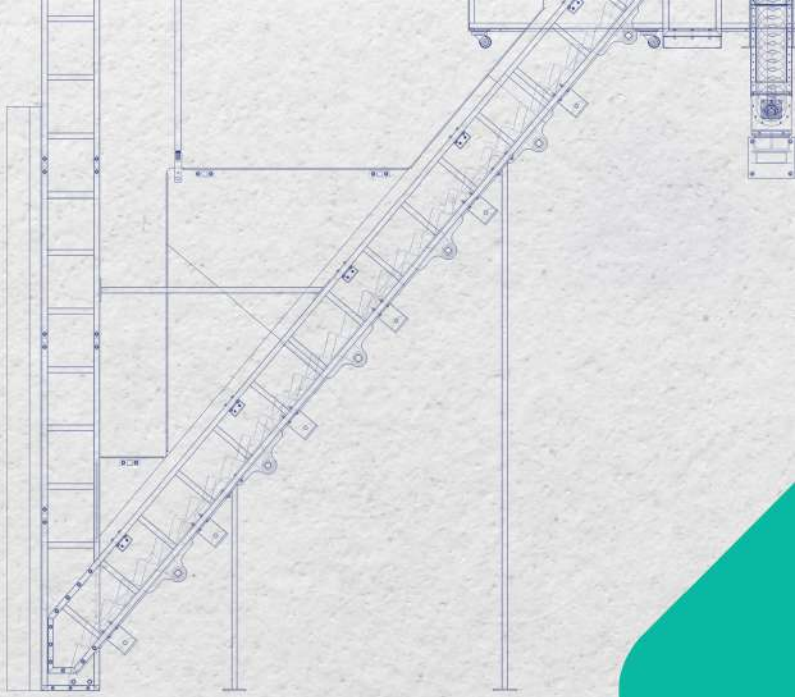
Global Leader and Your Partner in
Water Pollutant Removal Systems

STEP SCREEN

A Mechanical Screen System

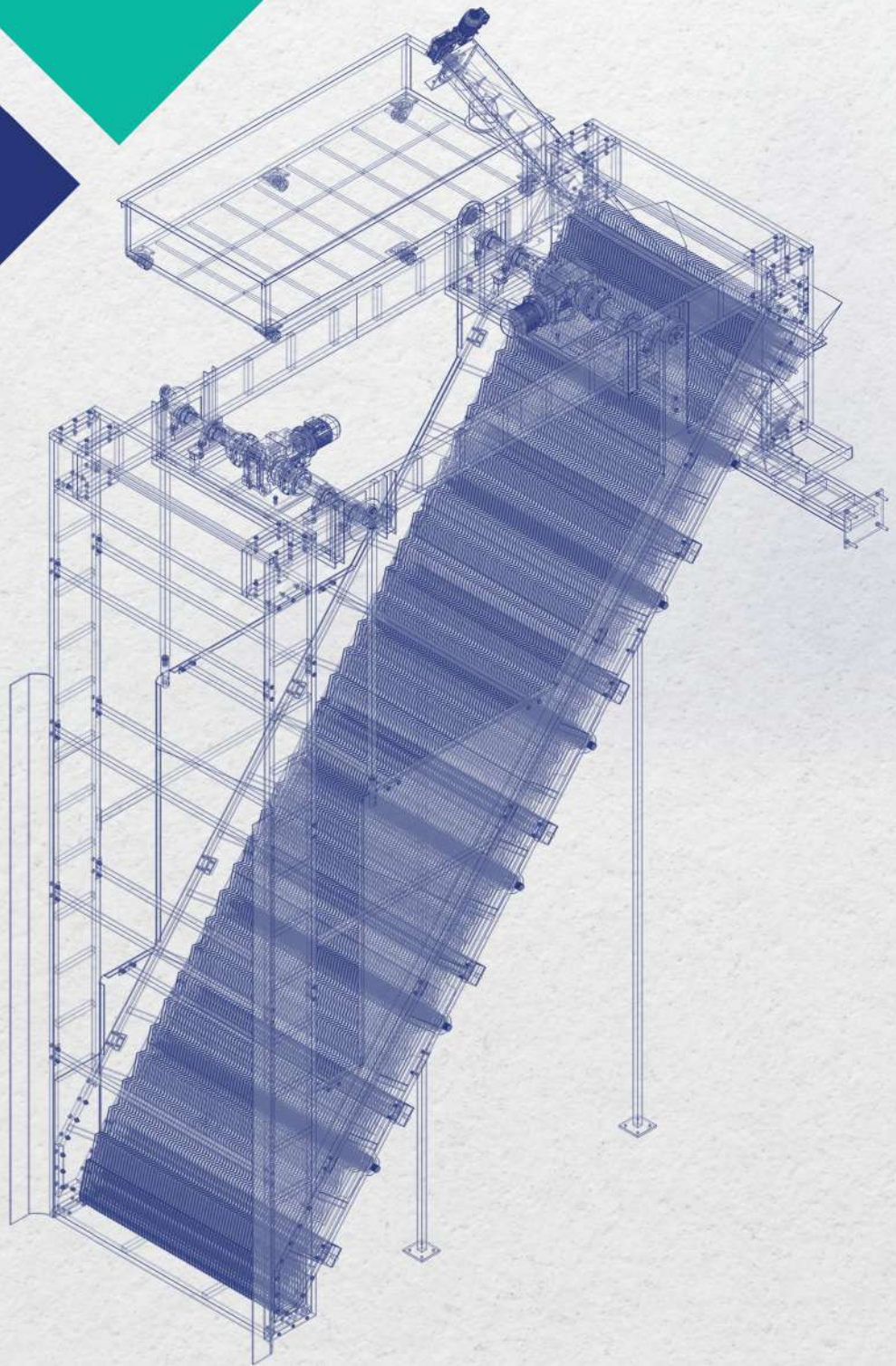






STEP SCREEN

The Potential Step Screens, designed for in-channel installation, employ two sets of lamellae - mobile and fixed - with 3 or 10 mm spacing, forming filtering steps. These steps capture screenings from wastewater while allowing water to pass through. The mobile lamellae gradually lift the screenings, creating a "screenings mat" on the fixed lamellae. This process expands the filter surface and captures increasingly finer particles.
When the upstream water reaches a predetermined level, the screen initiates its cycle by rising a step. Throughout this cycle, the mobile lamellae progressively lift the screenings to higher steps until they reach the discharge outlet for removal. This continuous process effectively separates and collects waste from the water flow, maintaining efficient filtration.



ABOUT PROBLEM

High Head Loss

The head loss in a channel takes place due to less open area for the flow which creates high water head at upstream & low water head in downstream

Variable water channel width and height

The variability in water channel width and height poses a challenge for step screens, requiring adaptable design features to accommodate fluctuating dimensions while maintaining efficient screening capabilities.

Difficulty in Maintenance

Regular cleaning of the complex step screen is vital to sustain system durability, necessitating specialized care to prevent performance decline and ensure prolonged operational efficiency.

Clogging of the screen

The screen faces clogging issues as floating fabric waste and fine foreign matter adhere to it, impeding the flow due to accumulation, thereby hindering its effectiveness in filtration.

OUR SOLUTION

Screw Conveyor

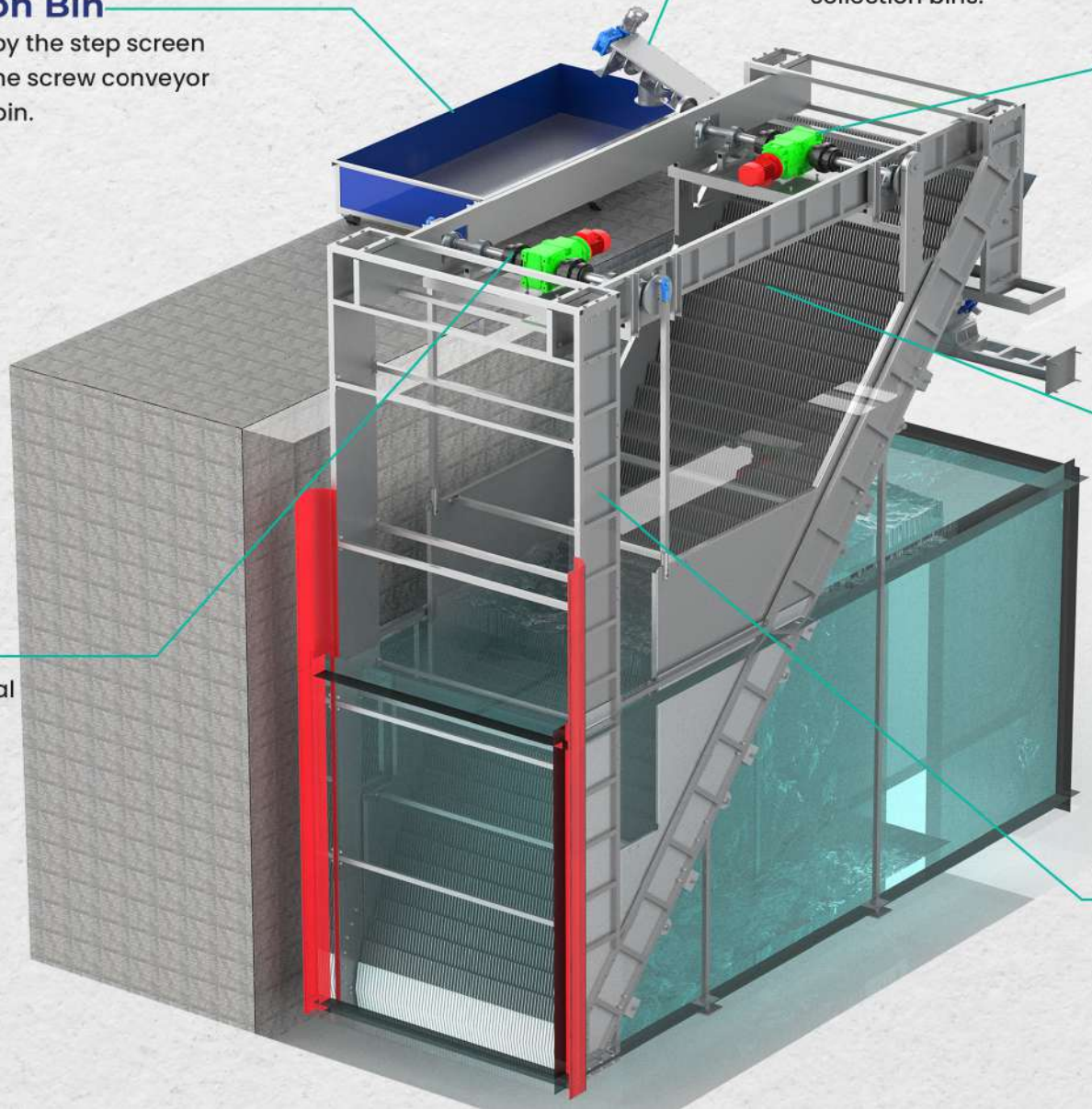
Potential Engineering employs screw conveyors to transfer collected trash from step screens to designated collection bins.

Trash Collection Bin

All the trash collected by the step screen is trasnfered through the screw conveyor to the trash collection bin.

Motor-Gearbox assembly

The driven mechanism can be Electrical as well as hydraulic operated as per the requirement of the customer.



Lamellae

Two sets of movable and stationary lamellae, spaced either 3 or 10 mm apart, construct filtration stages for effective filtering purposes.

Gear Coupling

Gear couplings are mechanical devices connecting shafts, transferring torque.

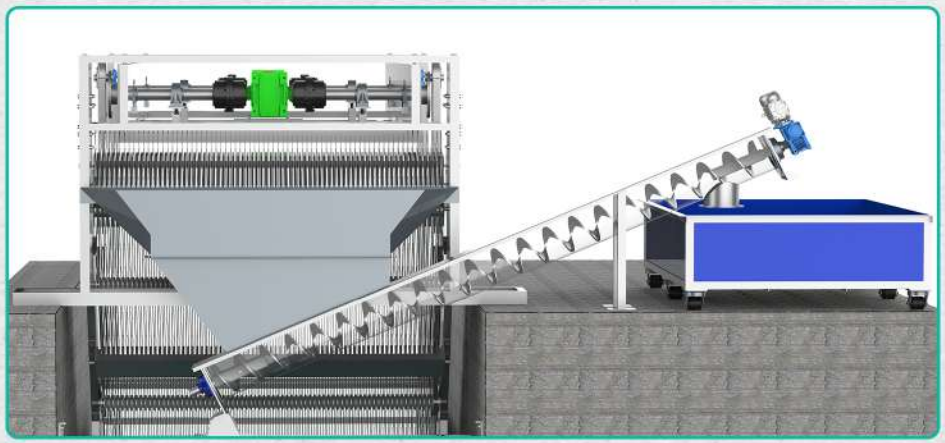
Side Frame

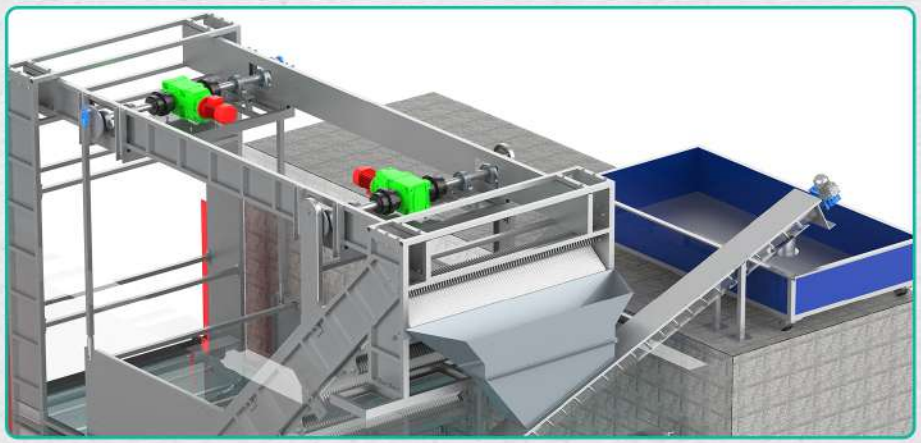
The Side frame supports the drive mechanism and the structure of the inclined lamellae.

SALIENT FEATURE

- Customized design as per client requirement.
- Overload protection-Equipped with torque limiter.
- Fine filtration with 3 mm or 6 mm
- Minimum noise emissions
- High capture efficiency of fine solids, inorganic and floating particles
- Savings in operating costs, maintenance and operator attendance

Conveying of Trash

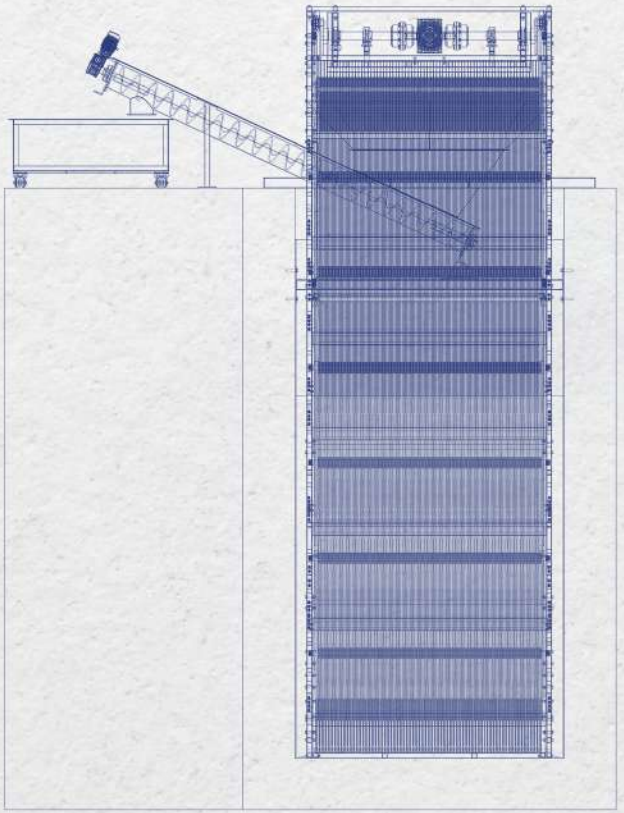


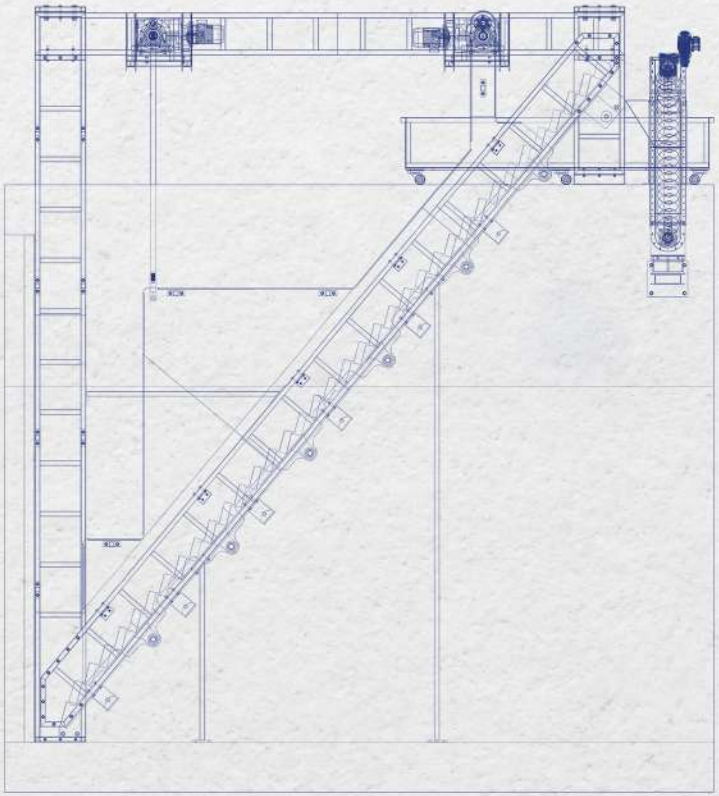


Screw Conveyor

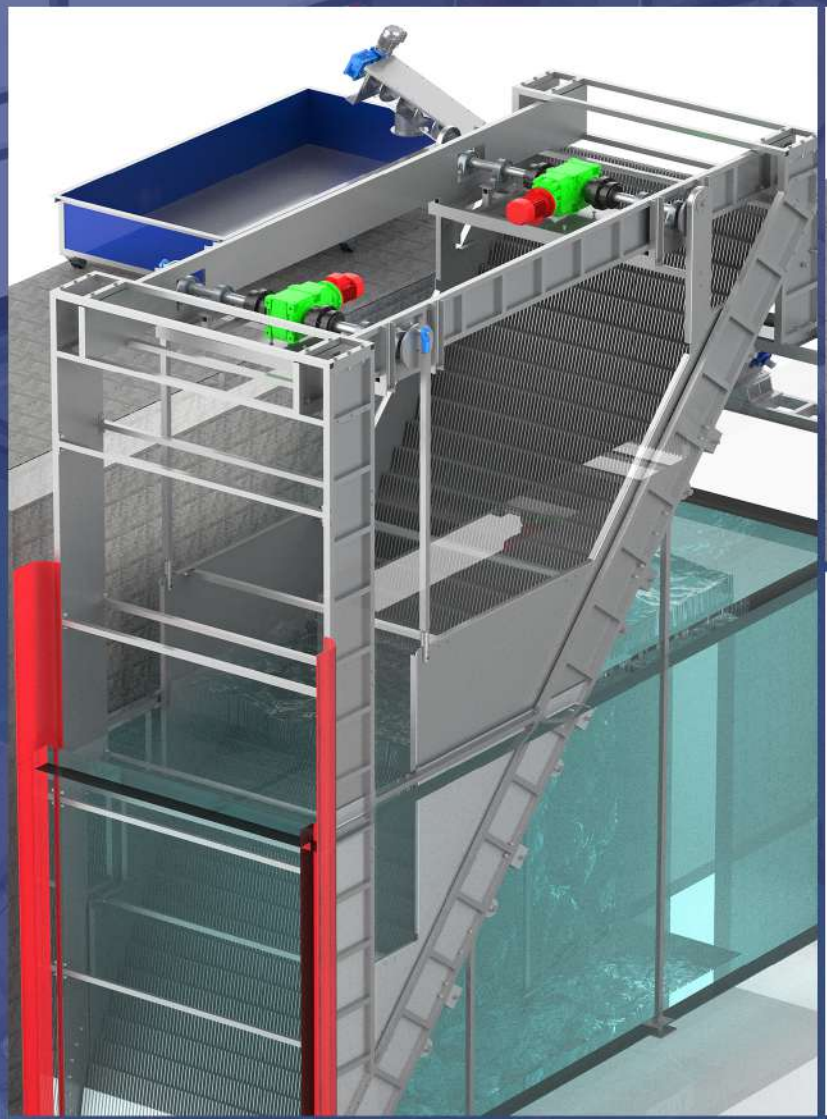
The screw conveyor, dating back over two millennia, remains among the earliest material conveying methods. Originally utilized for grains and fine coal, its evolution over a century has positioned it as a pivotal element in material handling.
Advancements in modern technology have optimized the screw conveyor's efficiency, rendering it a paramount and cost-effective solution for transporting bulk materials. Today, it stands as one of the most efficient methods in material conveyance, owing to its historical significance and continual technological enhancements.
Potential Engineering employs screw conveyors to transfer collected trash from step screens to designated collection bins. This application optimizes the conveyance of waste materials, utilizing the screw conveyor's efficiency in handling bulk substances. Its seamless function aids in the organized and efficient disposal of debris, enhancing waste management systems within the engineering setup.

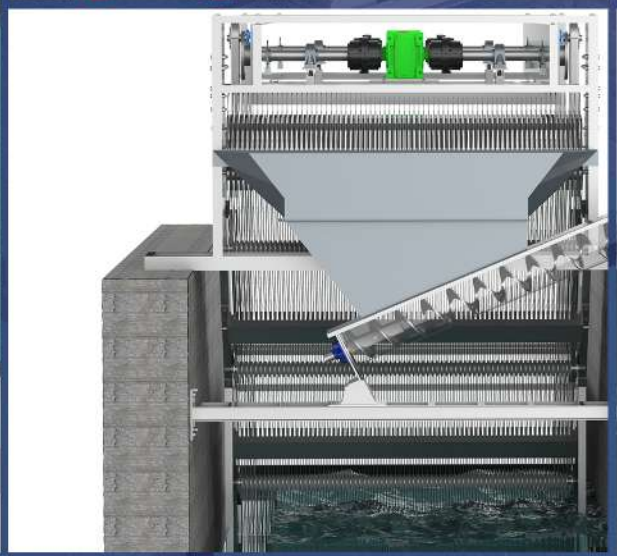
MODEL SELECTION MATRIX

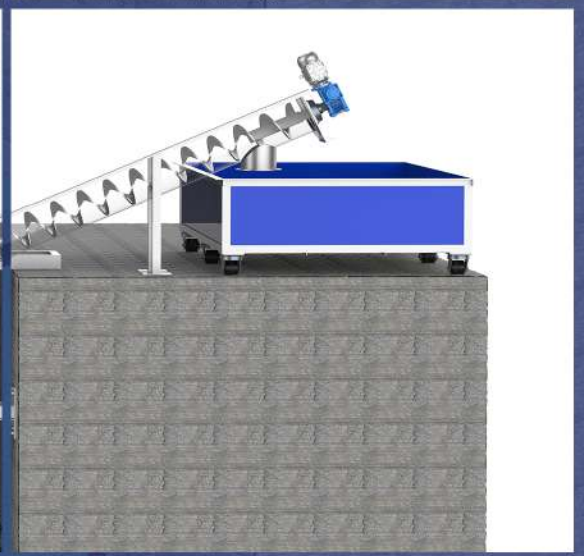




SPACING	10 mm
CHANNEL WIDTH	2.6 mtr
CHANNEL DEPTH	5.5 mtr
SCREEN LENGTH	9 mtr
INCLINATION	50°
OPERATION	Hydraulic / Electric
MOC	SS / Other material on request
ACCESSORIES	Screw Conveyor / Wate Jet / Trash Collection Bin.







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