

**Taurian**<sup>®</sup>MPS

# WHEELER

A Taurian Brand



**HYPERSIZER 4818**



The Taurian MPS - Track Product Range

WHEELER JAW  
Semi-Mobile Jaw Crushers

WHEELER CONE  
Semi-Mobile Cone Crushers

WHEELER IMPACTOR - VSI  
Semi-Mobile VSI

WHEELER HYPERSCREEN  
Semi-Mobile Screening Systems



WHEELER HYPERSIZER  
Semi-Mobile Crushing & Screening Plant

WHEELER IMPACTOR - HSI  
Semi-Mobile HSI

WHEELER TWINCORE  
Semi-Mobile Crushing Plant

# WHEELER

## Hypersizer 4818

### High-Frequency Screening System

Integrated high-frequency, two-deck screening unit designed for efficient fine material separation and precise sizing; operates at high vibration frequency with low amplitude to enhance stratification and throughput, ensuring accurate gradation, reduced blinding, and improved fines recovery.

Hydraulic controls for variable angle operation; Fines collecting hopper; Top and bottom deck discharge chutes; Aggregate spreader; Fixed access ladder with wrap around walkway, less screen cloth (top and bottom deck rotary end tension)

### Impactor

TI 650 Horizontal Shaft Impact Crusher with heavy duty rotor assembly; two (2) reversible and replaceable blow bars; Primary apron, secondary apron, hydraulic adjustment aprons and hydraulic actuated access door; Variable speed hydraulic drive

### Vibrating Feeder

40" x 14' horizontal type with 43" replaceable tine deck with 1" opening; Bolt-on liner; Supports; Loading hopper fabricated of 3/8" AR plate; Variable speed hydraulic drive; By-pass chute under grizzly with AR liner (3/8")

### Side Product Conveyors

One (1) 24" swing out conveyor with hydraulic variable speed drive (0-350 FPM); formed plate; folds for transport; Rubber lagged head pulley and self-cleaning wing pulley mounted on, pillow block bearings; Screw type take-ups; Return idler guards; Receiving hopper for conveyor

### Fines Conveyor

One (1) 42" conveyor with hydraulic drive (350 FPM); Formed plate; Folds for transport; Operates in two positions; Rubber lagged head pulley and self-cleaning wing pulley mounted on flange bearings; Screw type take-ups; Return idler guards; Primary belt cleaner with internal spring tensioner

### Delivery Conveyors

One (1) 48' x 36" conveyor  
Electric geared motor drive 11 kW  
Full-length skirtboards  
10" self-cleaning wing pulley  
Belt: EP315/3 , cover : 5mm, 2mm

### Power and Hydraulics

250HP Electric motor to operate vibrating feeder and crusher;  
Twin 60HP motors to operate screen and conveyors;  
NEMA-4 rated instrument panel;  
hour meter and emergency stop

### Crusher Return Conveyor

One (1) 26" conveyor with hydraulic drive (350 FPM);  
Lowers for transport; Swing out design for optional stockpiling;  
Rubber lagged head pulley and self-cleaning wing pulley mounted on pillow block bearings;  
screw type take-ups; Return idler guards

### Options

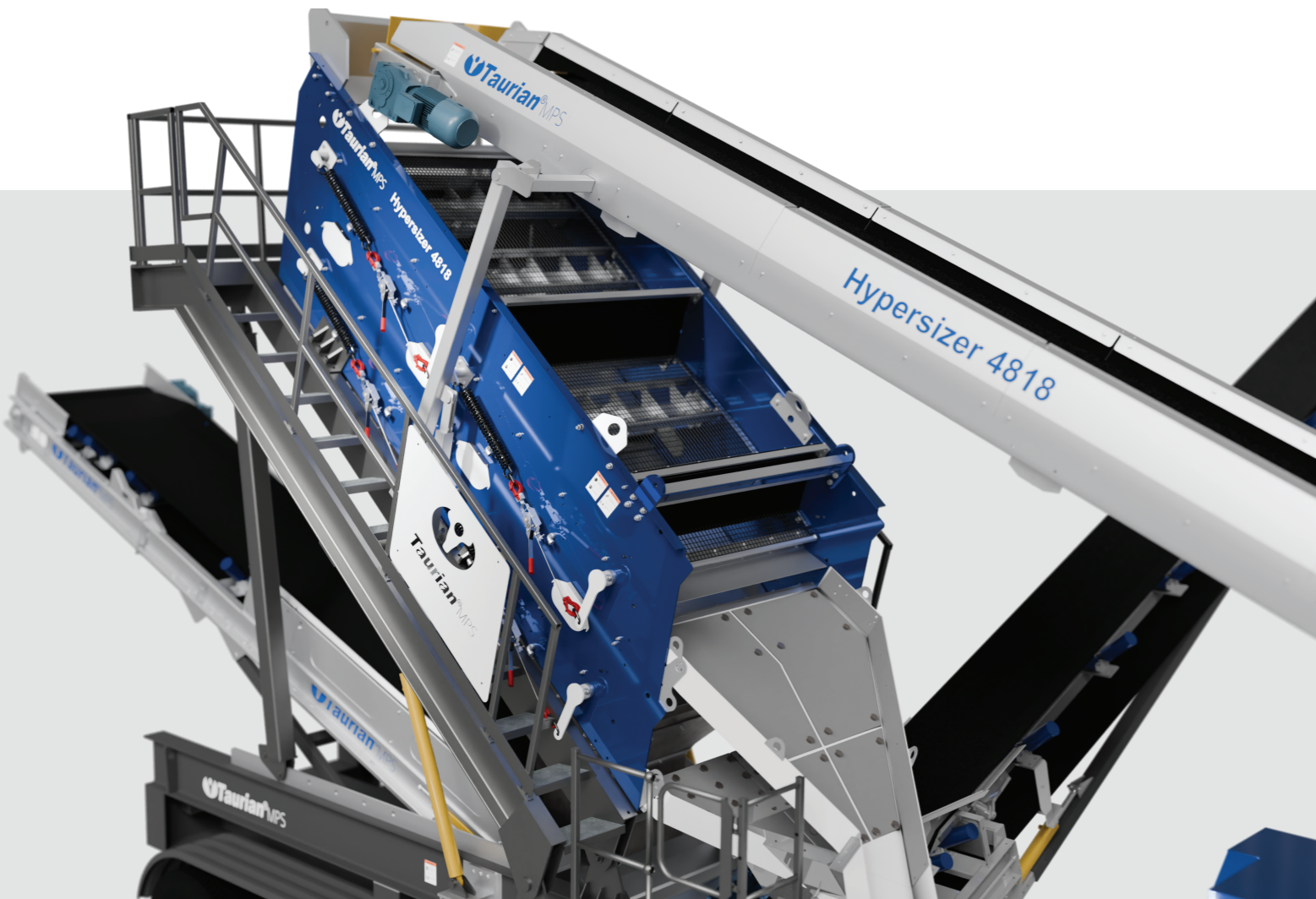
Standard Steel Screen Cloth for Hypersizer 4818  
Suspended, Self-Cleaning, Hydraulic Driven Belt Magnet, 30" wide  
Wireless Remote Package for Crusher Return Conveyor, 2520 Multi-Frequency Screen ILO 2520K  
Auto-Greaser to grease all lube points except screen bearings



## High Frequency Screen

This is engineered for precision separation of fine materials in sand and mineral processing applications. Operating at up to 1800 RPM, the screen delivers sharp cut-point control and maximum material stratification for highly efficient fine screening. It's high-frequency vibration promotes rapid separation even under variable moisture and fluctuating feed conditions, while optimized deck motion enhances screening accuracy and throughput.

Designed for demanding fine classification duties, it ensures consistent product gradation, improved recovery rates, and reliable high-performance operation across diverse applications.



## Horizontal Shaft Impactor Choose your Impactor

TI 650

TI 1111P

TI 1012P

TI 1105T

TI 1110T

TI 1115T



Taurian HSI crushers combine powerful impact crushing with intelligent engineering to deliver efficient material reduction and superior product shaping across a wide range of applications. Utilizing high-speed horizontal shaft impact technology, they provide consistent reduction ratios, enhanced particle shaping, and clean fracture surfaces for high-quality output.



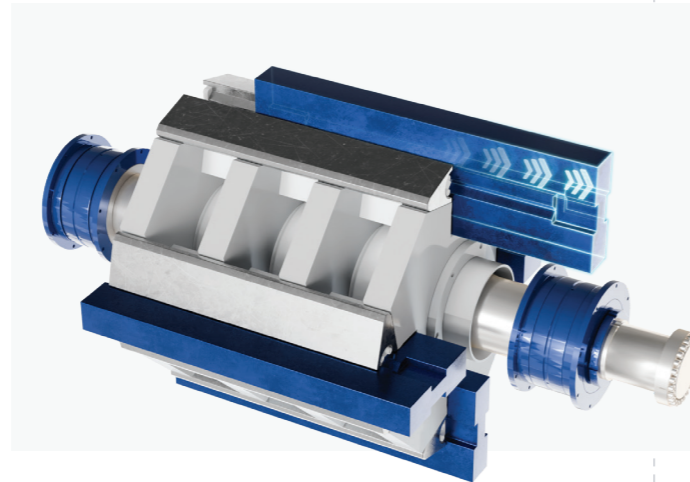
Designed with user-friendly controls, rapid hydraulic access for maintenance, and durable wear liners, the machine minimizes downtime while maximizing operational efficiency. Built for versatility, Taurian HSI crushers perform reliably in road construction, mining, quarrying, and recycling applications where productivity and consistent output are critical.

## Consistent Gradation High-Efficiency Sizing

### Heavy Rotor. High Impact.

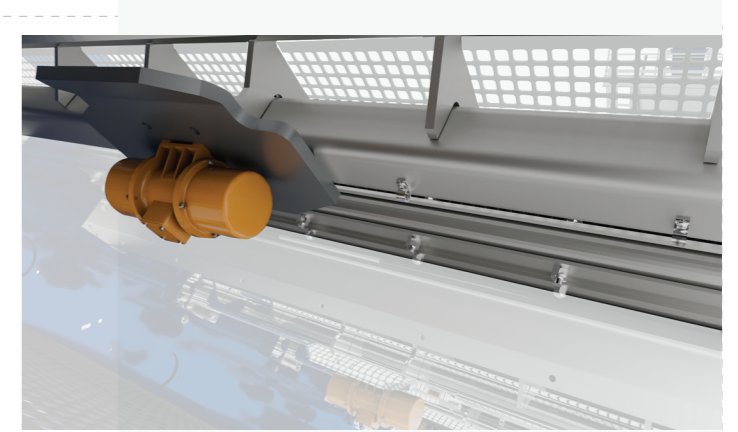
Taurian Hypersizer impact crushers feature a heavy-duty rotor engineered for high kinetic energy transfer and consistent impact performance in demanding tertiary crushing applications. Designed to maximize reduction efficiency and particle shaping, the rotor delivers superior crushing force, improved material acceleration, and uniform product gradation.

Its robust construction ensures long-term durability, stable performance, and sustained output quality under continuous high-load operation.



### Stealth Tappets

The Hypersizer incorporates Stealth Tappets, engineered to minimize vibration and noise while maintaining precise impact alignment; these tappets reduce wear on critical components, enhance rotor efficiency, and contribute to longer service life with lower maintenance requirements.



### Auto-Aligning Feed Distributor

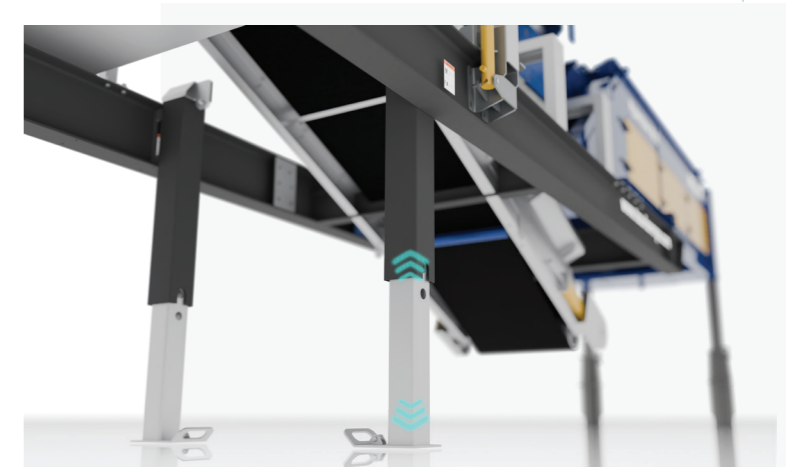


The Wheeler Hypersizer's high-frequency screen features an auto-aligning feed distributor that ensures uniform material distribution across the screening deck. By automatically adapting to changing feed conditions, it improves screening efficiency, enhances separation accuracy, and reduces uneven deck loading for more consistent performance.

### Hydraulic Support Legs

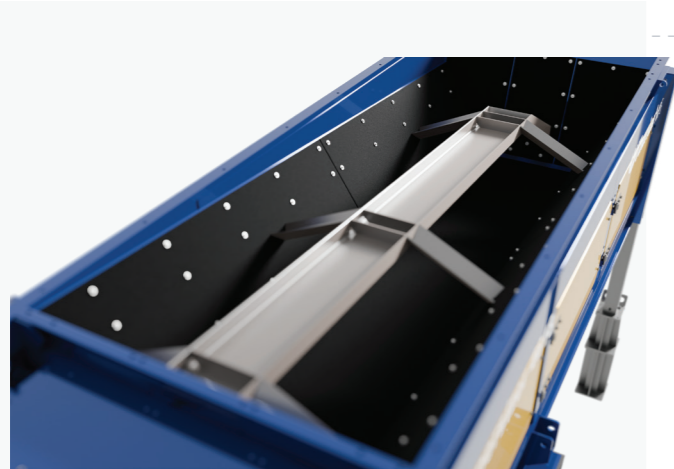
The Wheeler Hypersizer is equipped with hydraulic support legs for rapid setup and stable plant positioning.

Engineered for efficient deployment on uneven terrain, they minimize manual intervention and ensure reliable operational stability.



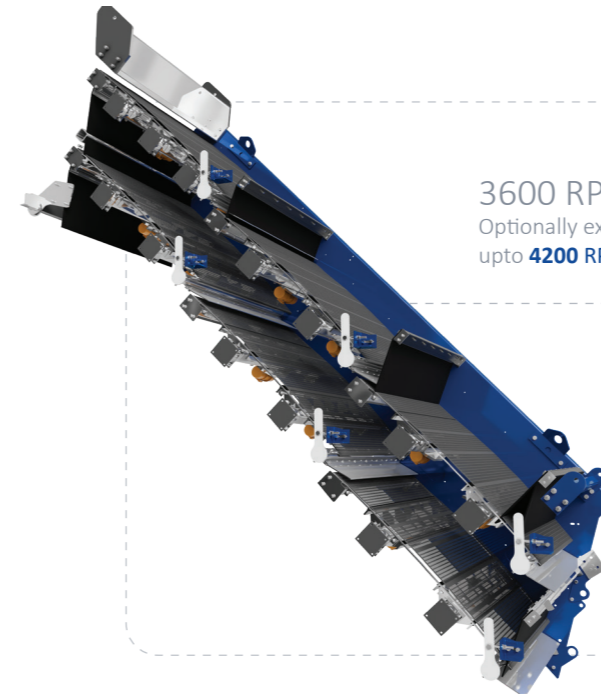
# Superior Screening Redefined

## Bridge Breaker



Designed to prevent material bridging and blockages in crusher feed hoppers. The system ensures smooth, continuous material flow, improving plant efficiency and reducing downtime.

## Customizable Vibration Speed for Material-Specific Screening



3600 RPM  
Optionally extendable  
upto **4200 RPM**

This operates at a standard 3600 RPM, delivering consistent high-frequency motion ideal for fine material separation. For applications demanding higher stratification and sharper cuts, optional 4200 RPM motors are available. The increased frequency enhances acceleration, reduces blinding, and improves screening efficiency—especially for ultra-fine materials.

This flexibility allows operators to optimize performance based on material characteristics and application requirements.

## Belt Scale



The belt scale is an integrated feature designed to provide continuous and accurate measurement of material throughput in the crushing circuit. It delivers real-time production data, enabling better process control and optimization of crusher performance.

The digital controller offers an easy-to-read display along with data logging capabilities, allowing operators to monitor daily output and track production trends efficiently. With seamless integration into plant automation systems, the belt scale enhances operational efficiency while maintaining a low-maintenance, high-accuracy performance over long service life.

**Screen:**  
Model: 4818- II Deck- High-Frequency Screen  
Size: 4.6' x 1.8' screening decks

**Drive:**  
14 variable speed hydraulic vibrators (0–4200 RPM)  
Directly induced vibrating action

**Highlighting Features:**  
Hydraulic angle adjustment  
Fines collecting hopper  
Top & bottom deck discharge chutes  
Aggregate spreader  
Fixed access ladder with wrap-around walkway  
Reduced screen cloth usage (rotary end tension system)



# Working Principle

## Stratification

This is the natural layering process where larger particles rise to the top of the vibrating material bed, while finer particles migrate downward through the voids. High-frequency vibration accelerates this action, but it can only occur efficiently when the material bed has the correct depth.

## Separation

Once stratification occurs, particles present themselves to the screen openings. Larger particles are retained on the surface, while smaller ones pass through the apertures. Proper separation is only possible when stratification is effective.

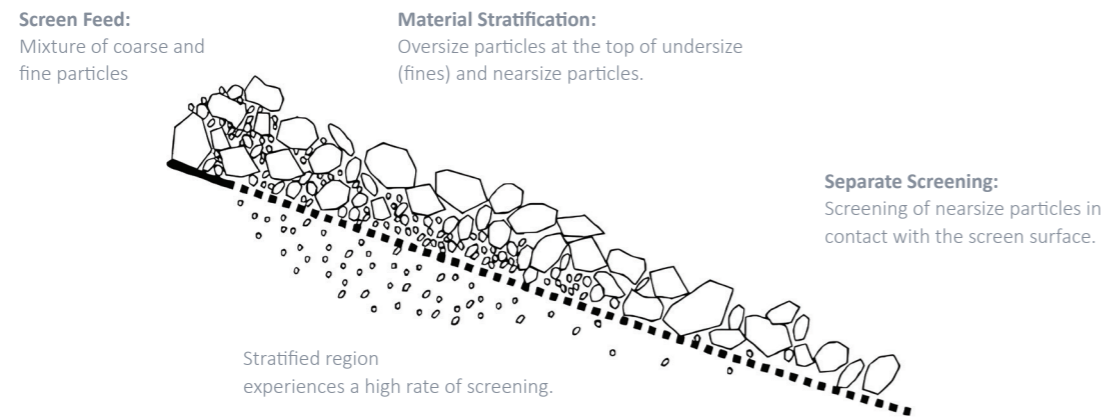
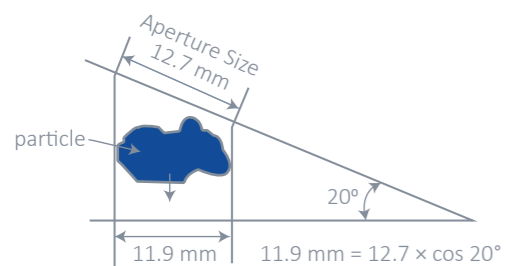


Fig. Stratification of Particles on Vibrating Screen

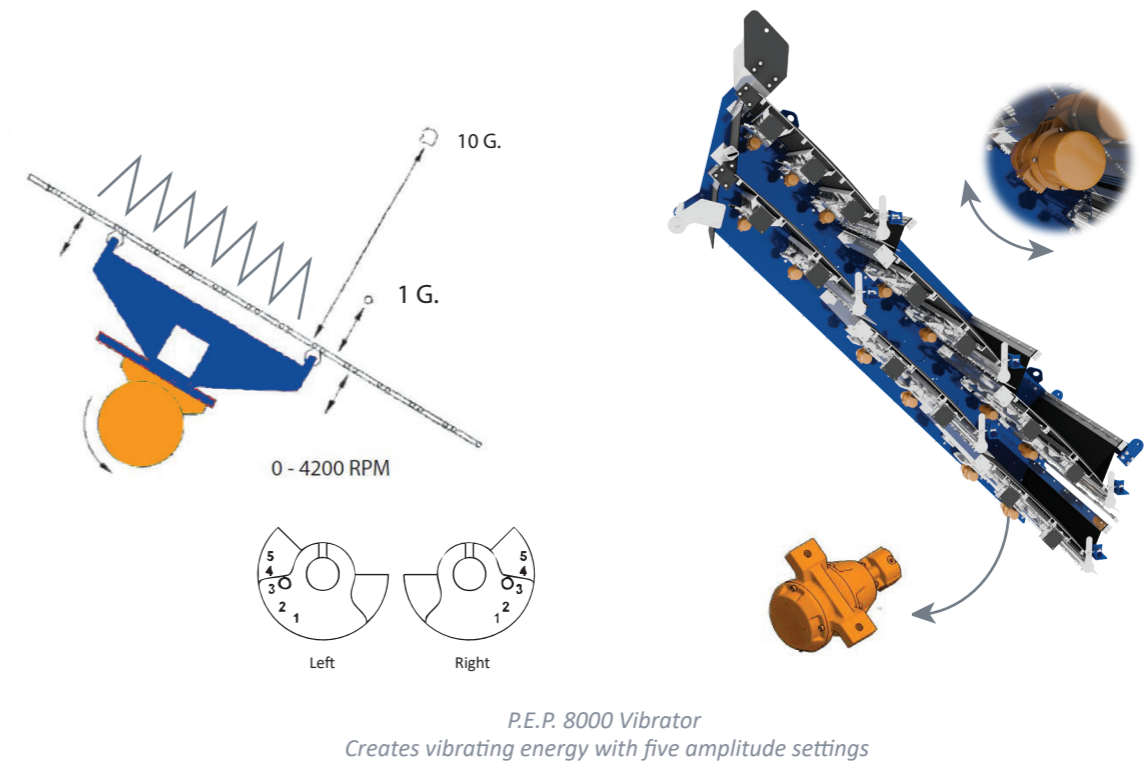


Effect of Screen Angle on Aperture

The angle of the screen influences the perceived size of the aperture from the particle's perspective. When the screen deck is more horizontal, the openings appear larger when viewed from above. Conversely, as the angle of the screen becomes steeper, the openings appear progressively smaller. A steeper angle also increases the speed at which particles travel across the screen, reducing the likelihood of particles passing through the apertures.

Aperture (mm)	Degree of Incline	Adjustment Factor	Visible Aperture (mm)
10	38	0.7880107536067221	7.88
10	39	0.7771459614569711	7.77
10	40	0.7660444431189782	7.66
10	41	0.7547095802227721	7.55
10	42	0.7431448254773944	7.43
10	43	0.7313537016191706	7.31

# Optimizing Vibrator Flow and Speed



## Coarse Material

Coarse material is most effectively screened using a higher amplitude (throw) combined with a lower frequency (RPM). The increased throw helps lift and propel larger, heavier particles so they clear the openings more easily.

## Fine Material

Fine material responds better to a shorter stroke (lower amplitude) and higher frequency (RPM), allowing small particles to pass more efficiently through the screen surface.

## Bed Depth and Its Effect on Screening

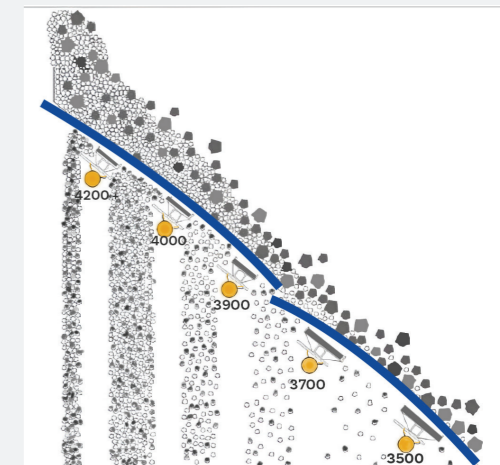
A critical factor in determining the correct vibrator flow and speed settings:

### Deep Bed Depth

When the bed depth is too deep, increasing the vibrator RPM helps reduce bed thickness by raising frequency and improving material stratification.

### Decreasing Bed Depth

As material progresses down the screen, the bed becomes thinner. To maintain proper separation, lower RPM is required. If RPM remains too high while bed depth decreases, material can begin to "float" or bounce—this leads to the undesirable "popcorning" effect, reducing screening efficiency.



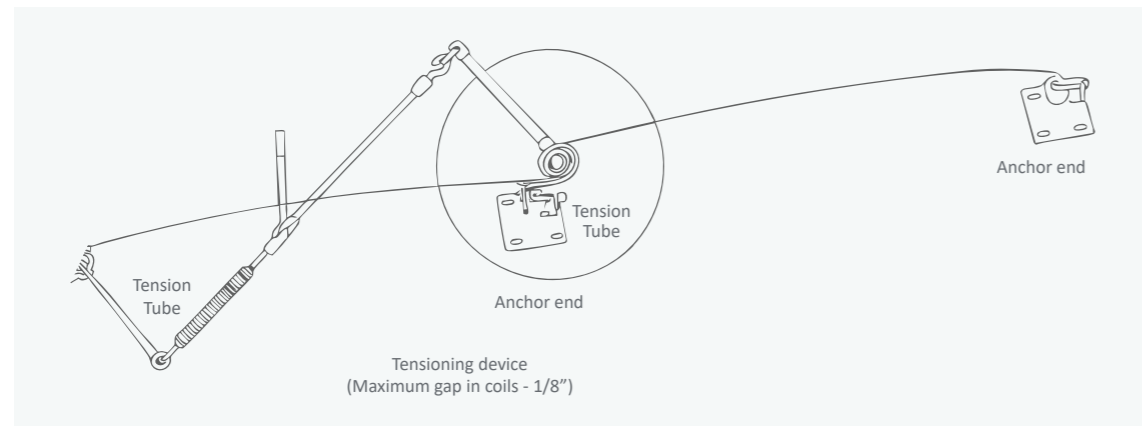
# Rotary Tensioning System



The Rotary Tensioning System brings a new level of efficiency and accuracy to precision fine screening. Designed for quick adjustment and uniform screen tension, it ensures optimal vibration transfer—critical for achieving clean separation of fine materials.

## Consistent Screen Tension for Superior Performance

The rotary mechanism applies uniform tension across the entire screen panel. Consistent tension ensures optimal vibration transfer, resulting in sharper stratification, cleaner separations, and higher product accuracy.



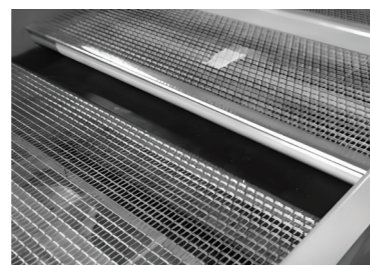
## Operator-Friendly, Low-Effort Adjustment

Unlike traditional wedge or bolt-based systems that require multiple steps and heavy manual force, the rotary system uses a simple turning action. This minimizes operator fatigue and reduces the risk of improper tensioning, ensuring a safer work environment.



## Increased Panel Life

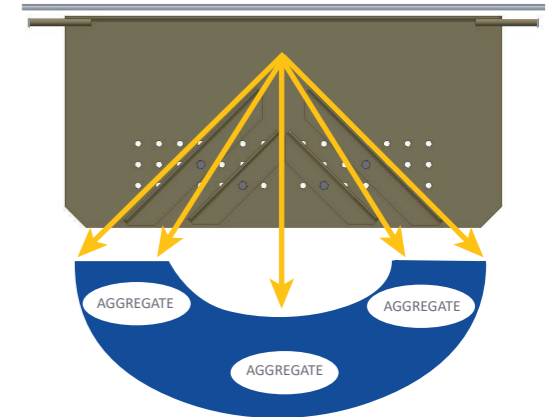
By maintaining even tension, the system reduces stress concentrations on the screen media. This leads to more uniform wear patterns and longer panel life, lowering overall maintenance costs.



# Aggregate Spreader

## Ensuring Uniform Feed Distribution

A key component in Taurian MPS High Frequency Screens, designed to absorb the impact of material discharged from the conveyor and distribute it evenly across the width of the screen. It creates a consistent, fan-shaped flow of material and ensures uniform feed coverage—critical for effective stratification and separation within the short screening window of high-frequency operation.



The primary function is to absorb the impact of the incoming material and distribute it evenly across the full width of the screen. This even distribution is essential, as high frequency screens operate at steep angles and therefore have a very short window for effective separation.

When material strikes the spreader, it is directed downward and outward toward the edges of the screen box. The ideal material flow forms a fan-shaped pattern, ensuring that the entire screening surface receives a consistent feed. Any imbalance in distribution can compromise stratification and separation efficiency.



## Variable Frequency Drive (VFD)

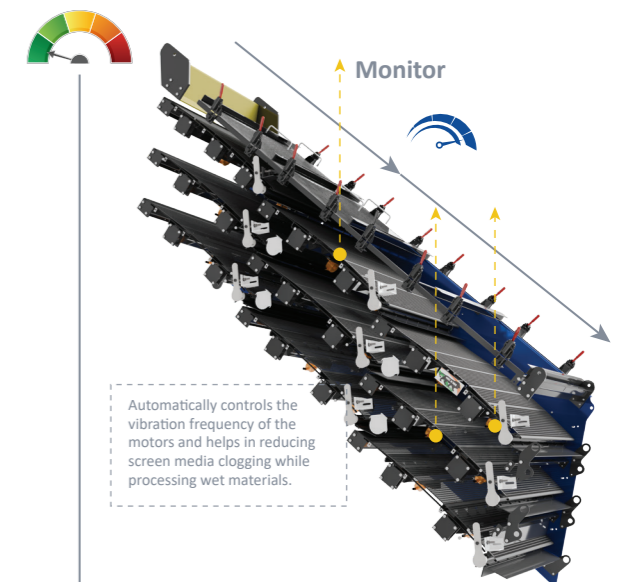
Integrated with plant automation systems, enabling real-time monitoring and adjustments for consistent performance.

### Speed Control:

VFDs adjust the motor speed (RPM) by changing the frequency and voltage of the power supply. In high-frequency screens, this allows the operator to control the vibration frequency, which can range from 3,000 to 7,000 RPM.

### Anti-Blinding:

Highly effective at reducing screen media clogging (blinding) when processing fine or sticky materials like fines or damp aggregate, significantly increasing yield and production.



# RAP Applications

## Crushing and Screening Solution

### Key Features & Benefits:



- Designed to handle sticky and cohesive RAP material efficiently
- Controlled crushing minimizes fines generation and preserves aggregate quality
- Hopper bridge breakers ensure uninterrupted material flow
- Variable speed feeders provide consistent feed to the crusher
- High-frequency screens reduce blinding and improve separation efficiency
- Rounded screen media design minimizes material build-up
- High RPM operation enables faster stratification and screening
- Anti-stick liners and optimized chute angles reduce material accumulation
- Self-cleaning conveyor systems improve operational reliability
- Belt scales enable accurate monitoring of RAP throughput
- Enhances plant efficiency, reduces downtime, and supports sustainable recycling operations

## TAURIAN'S TAKE ON **RAP** CHALLENGES

### Material Bridging in Hopper

- → **Challenge** : RAP material often forms arches or bridges at the hopper inlet, restricting flow and causing interruptions in the crushing process.
- → **Solution** : A hydraulic hopper bridge breaker is integrated to break blockages and maintain continuous feed to the crusher.

### Screen Blinding & Reduced Efficiency

- → **Challenge** : Fine RAP particles and bitumen cause screen apertures to clog, significantly lowering screening performance.
- → **Solution**: High-frequency screens apply aggressive vibration directly to the screen media, minimizing blinding. Rounded wire designs further reduce material adhesion.

### Excess Fines Generation in Crushing

- → **Challenge** : Over-crushing RAP can damage aggregate integrity and increase unwanted fines.
- → **Solution**: Crushers are operated with optimized settings and lower reduction ratios to achieve controlled size reduction.

# Compact & Versatile

## Easy Transport & Fast Deployment

### One-Unit Mobility Advantage

The integrated HSI and HFS configuration allows the complete system to move as a single unit, eliminating the complexity of transporting multiple machines and significantly reducing relocation time.

### Lower Logistics & Handling Costs

By combining crushing and screening into a single mobile platform, the system reduces the number of trailers, handling equipment, and manpower required—delivering a more economical transport solution.

### Fast Site-to-Site Deployment

With quick setup and teardown capabilities, the Hypersizer 4818 ensures rapid mobilization between projects, maximizing operational uptime.

### Secure Transit Engineering

Engineered with a reinforced structure, strategically positioned tie-down points, and optimized weight distribution, the unit ensures safe, stable, and vibration controlled transport everytime.

**23,543 mm**  
Transport length

**3,566 mm**  
Transport width

**4,300 mm**  
Transport height

**42,000 kg**  
Weight

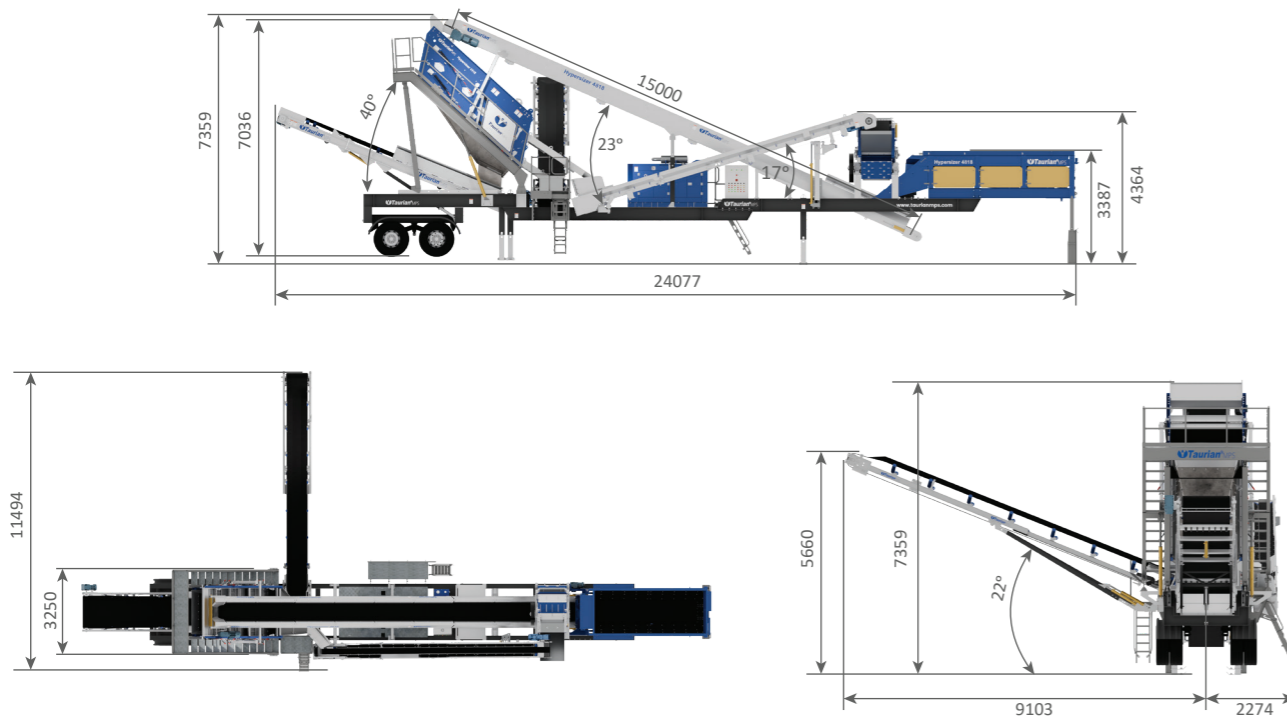


# Technical Specification

4600 x 1800 mm <b>HFS Screen size</b>	860 x 650 mm <b>HSI Feed opening</b>	350 <b>TPH</b>	150 kW <b>Power</b>
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- Reinforced Structural Design**  
 Built with a robust frame and wear-resistant components, ensuring long service life even in the toughest operating conditions.
- Operator-Friendly Control System**  
 Equipped with safe and easy-to-use controls, allowing operators to manage the machine efficiently from a secure position.
- Quick Installation**  
 Engineered for fast setup, minimizing downtime and maximizing productivity at the site.
- Centralized Maintenance Access**  
 Simplified maintenance with easily accessible service points, reducing service time and effort.

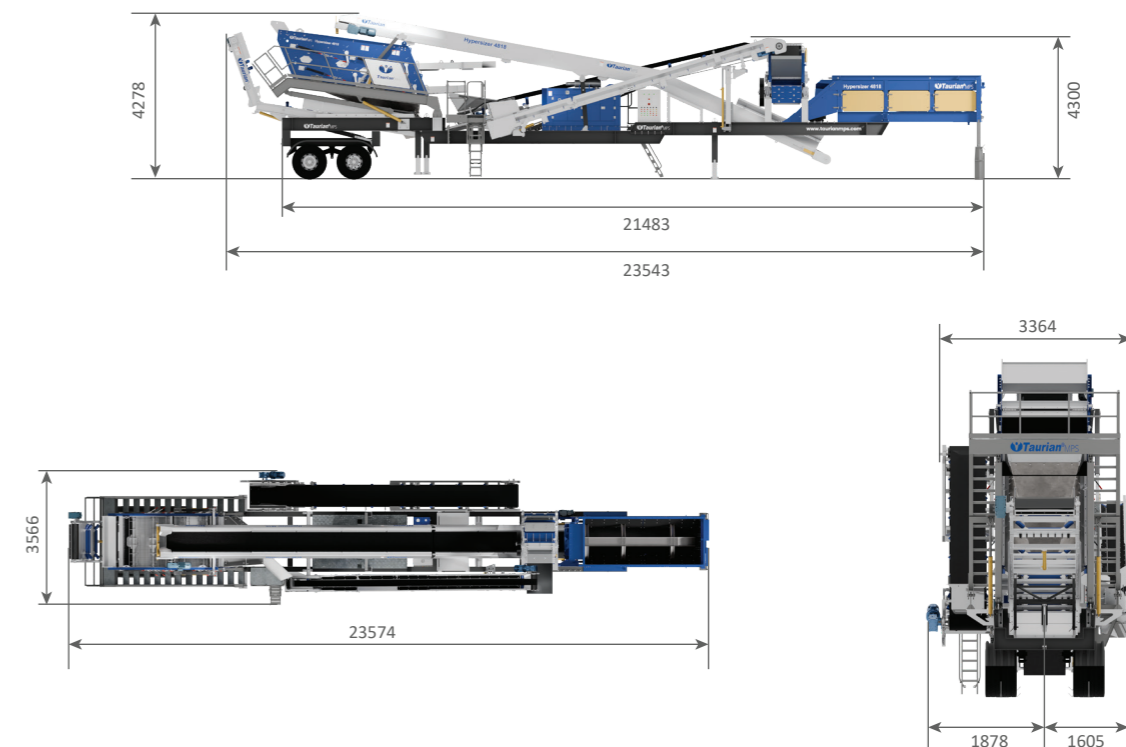
## Working Dimensions



## Technical Specification

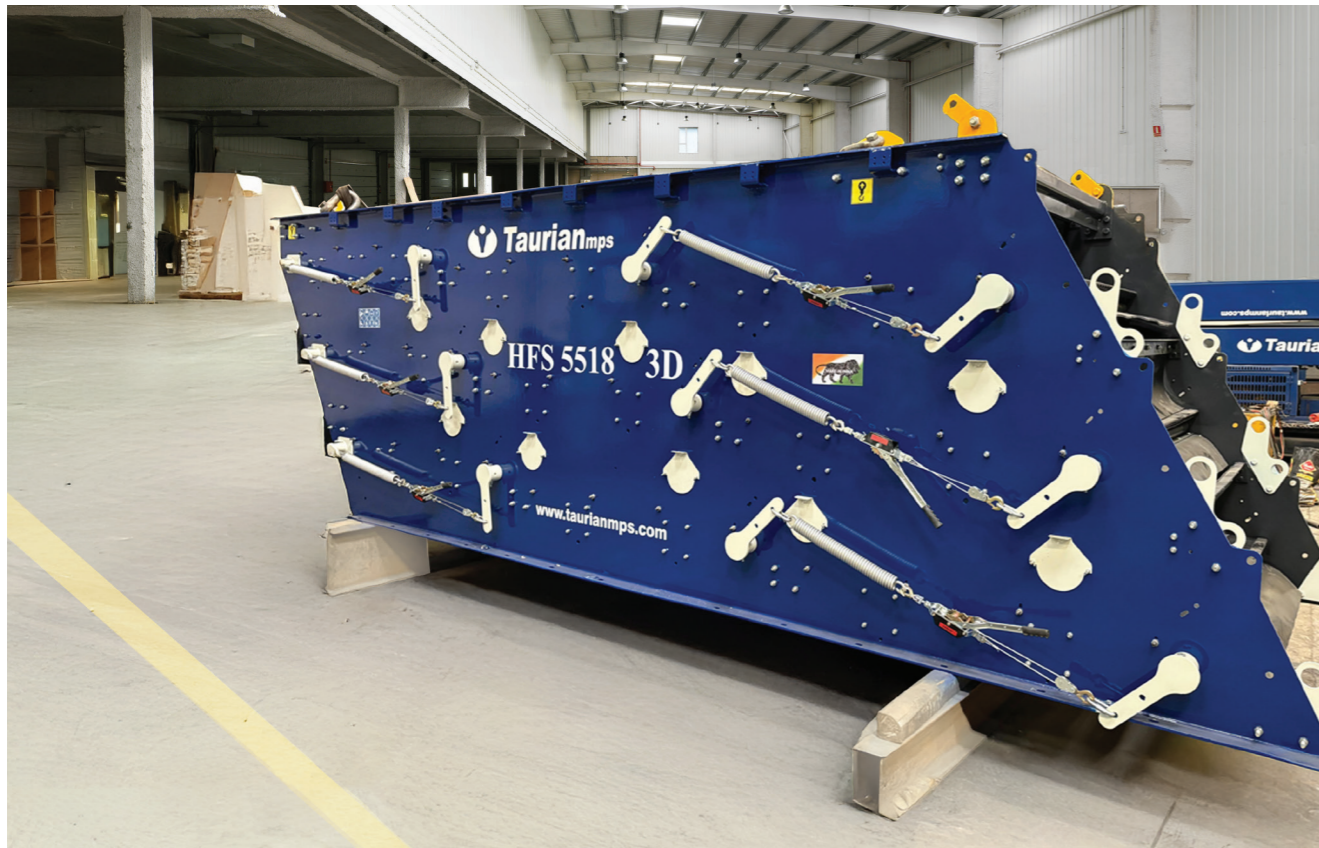
Model	Hypersizer 4818
Working (L x W x H)	24077 x 11494 x 7359 mm
Transport (L x W x H)	23543 x 3566 x 4300 mm
Weight	42000 kgs
Screen size	1800 x 4750 mm
Impactor RPM	800 RPM
Rotor size (L x W)	820 x 864 mm
Feed conveyor angle	23°
Max screen elevation	40°
No. of mesh	6
HSI motor	110 kW
Drive motors (electric/hydraulic)	150 kW

## Transport Dimensions





Wheeler Impactor HSI | Excon 2025, India



High Frequency Screen | Factory, India



High Frequency Screen | Moscow, Russia

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When only the best will do,  
**choose Taurian MPS.**



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