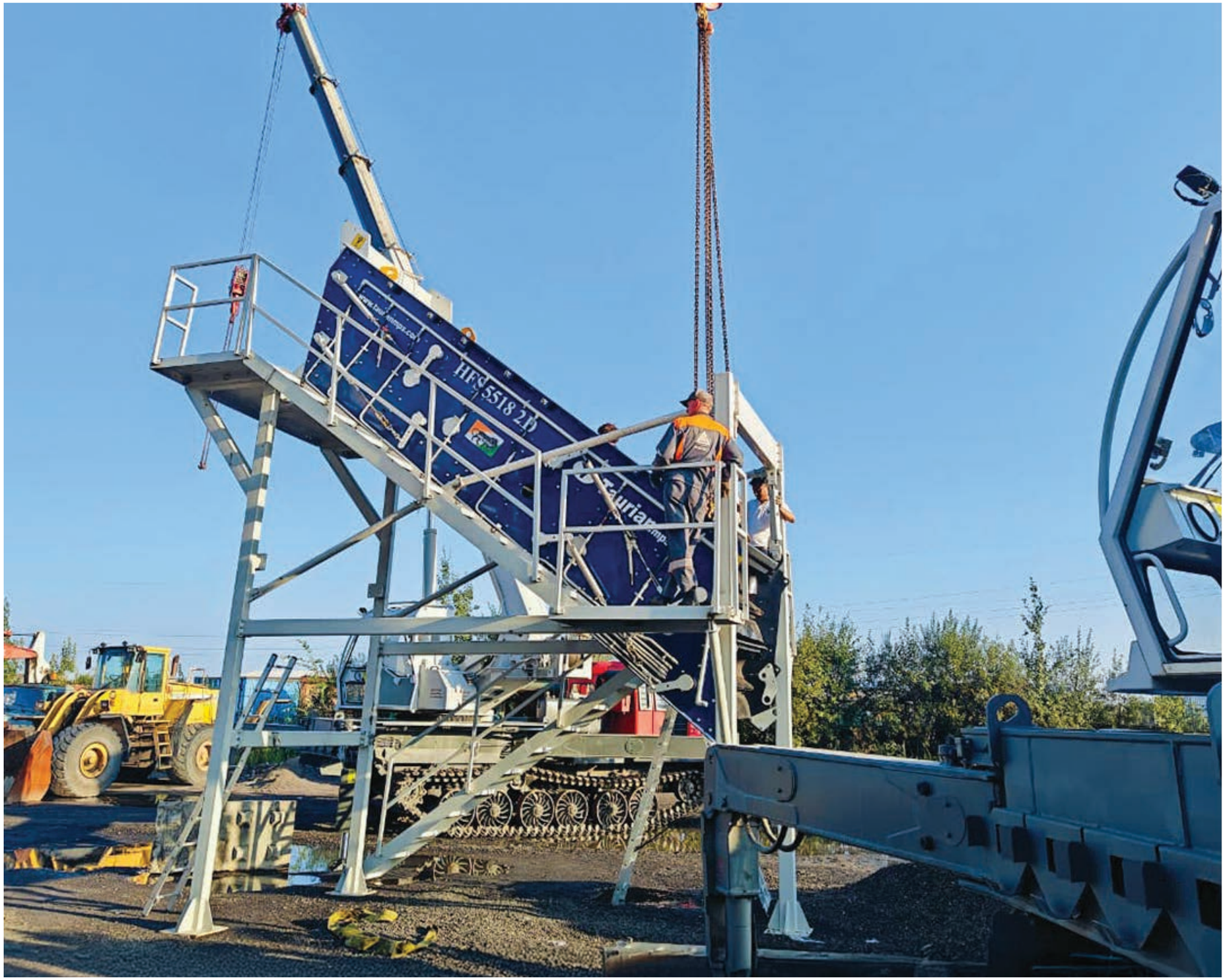
Taurian® MPS

HIGH FREQUENCY SCREEN

HFS-5518

SCREENING DONE RIGHT



20 Years of Experience

Start to Success. Together.

With over 20 years of expertise, Taurian™ has established itself as a leading Indian manufacturer of crushing and screening equipment for aggregates, mining, and mineral processing. The name Taurian™ stands for excellence and reliability globally.

Founded by industry experts, Taurian™ has evolved from a family business to India's only public limited company in its field. Focused on long-term value and quick ROI, Taurian™ has strategic partners with top U.S. and European firms to deliver superior products that meet global industry standards.

Whether you're an experienced veteran or new to the industry, Taurian™ offers extensive support to the global aggregate market through its leading brands, including Taurian MPS™, Terratrak™, Cyclowash™ and Stackmax™.

Designed for Maximum Productivity

Modular Structure
Easy on-site assembly with basic tools,
ensuring fast setup.
Pre-wired with a plug and play system
User-friendly starter panel for convenience.
Flexible access stair configurations to suit various setups.
Compact transportation in a 40' shipping container.

Application Flexibility
Can be used in mining, construction, recycling,
industrial sand processing and more
Crushed stone, recycled asphalt pavement (RAP),
sand and gravel, coal, fly ash, slag, coke, and more.

Enhanced Vibration Technology
Electric Vibrators operating at up to 3000 RPM
ensuring superior performance for fine
material separation.
Elliptical Motion design promotes efficient
material movement across the screen deck.

Versatile Deck Configurations
Multiple Deck Options: single, double, and triple-deck
configurations, catering to a variety of screening needs.
customizable mesh sizes and materials,
allowing users to tailor their setup

Cost Effective Operation
Durable components and wear-resistant designs
reduce the need for frequent part replacements.
Minimal Downtime: Features like quick-change
screen panels and accessible maintenance points.

Other Features
Easily adjustable slope between 38-43°.
Suspension hanger eyes at feed and discharge end.
Bolt-in feed distribution box.
Adjustable discharge chutes.
Rubber isolation mounted vibrating screen cloth.
Large walkways for easier access.
Rubber capped wire cloth support bars.

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.

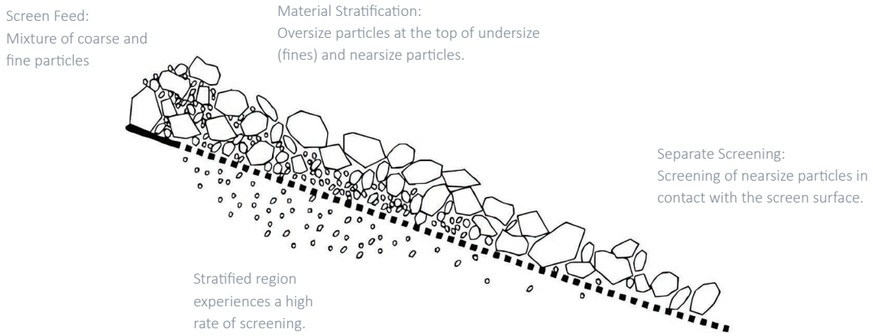
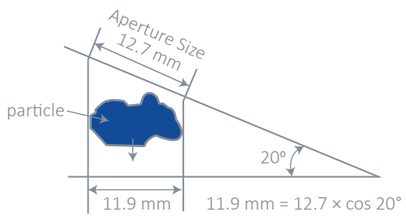


Fig. Stratification of Particles on Vibrating Screen

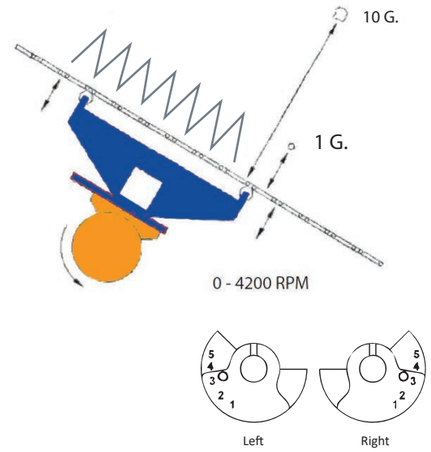


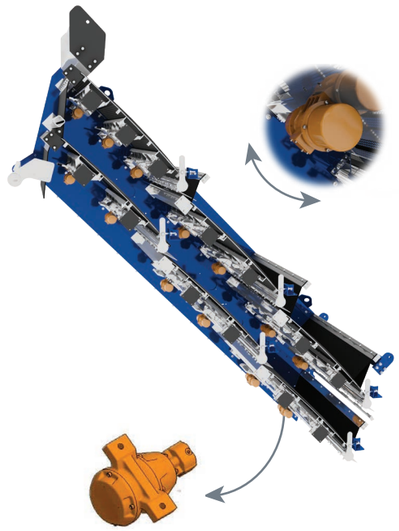
Effect of Screen Angle on Aperture

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**





P.E.P. 8000 Vibrator
Creates vibrating energy with five amplitude settings

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 particle s 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

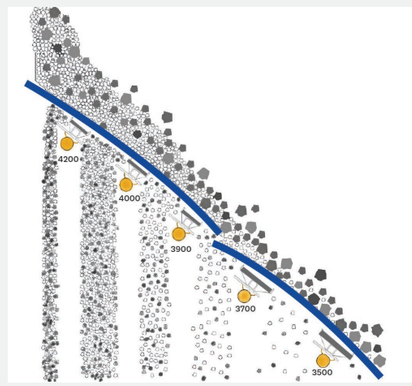
A critical factor in determining the correct vibrator flow and speed settings:

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.

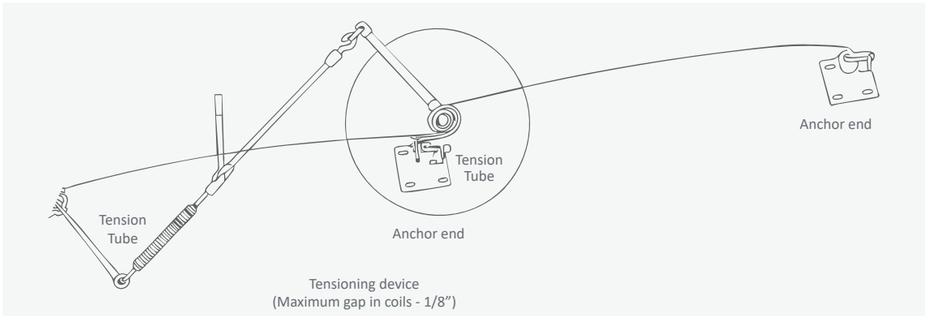


Rotary Tensioning System

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.



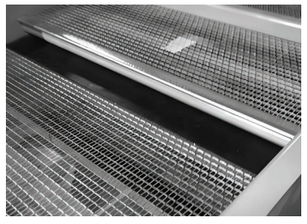
Tensioning device
(Maximum gap in coils - 1/8”)

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

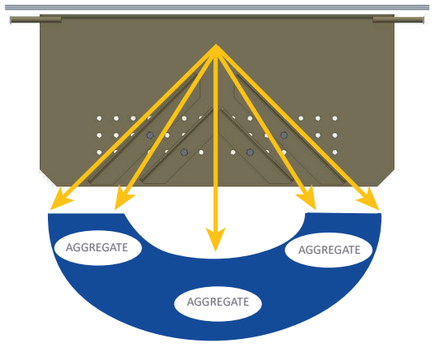
By maintaining even tension, the system reduces stress concentrations on the screen media. This leads to more uniform wear patterns and longer panel life, lowering overall maintenance costs.



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.

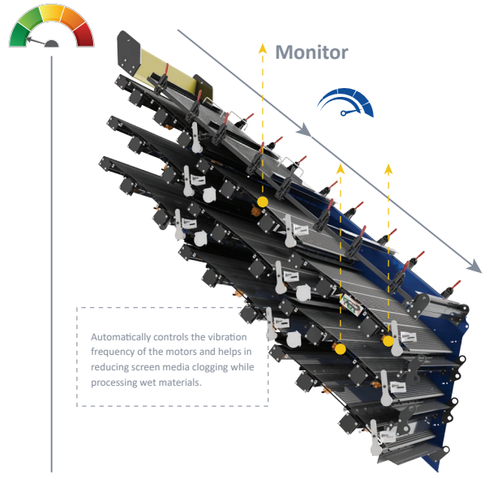
When material strikes the spreader, it is directed downward and outward toward the edges of the screen box. The ideal material flow forms a fan-shaped pattern, ensuring that the entire screening surface receives a consistent feed. Any imbalance in distribution can compromise stratification and separation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

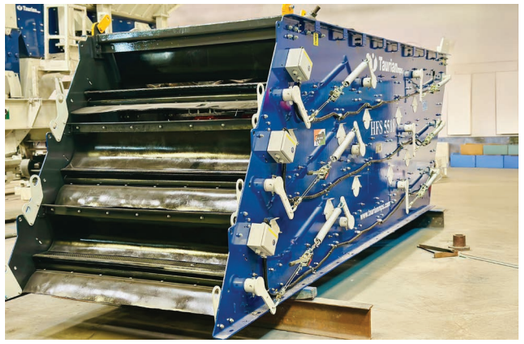
Variable Frequency Drive (VFD)

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

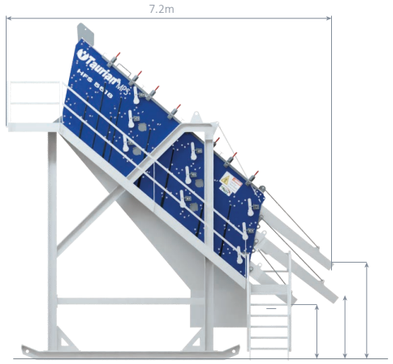
Speed Control: VFDs adjust the motor speed (RPM) by changing the frequency and voltage of the power supply. In high-frequency screens, this allows the operator to control the vibration frequency, which can range from 3,000 to 7,000 RPM.

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.





Technical Specification



High-Frequency Screen

Model	HFS 5518 2D	HFS 5518 3D
Screen size	1830 x 5490 mm	1830 x 5490 mm
Screening area	10 m²	10 m²
No. of mesh	6	9
Angle	38° - 43°	38° - 43°
Motors (electric/hydraulic)	13 x 1.3 kW	19 x 1.3 kW
Weight	10540 kg	13540 kg

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