

Vacuum Shale Shaker



>>> Xi'an • China

energy

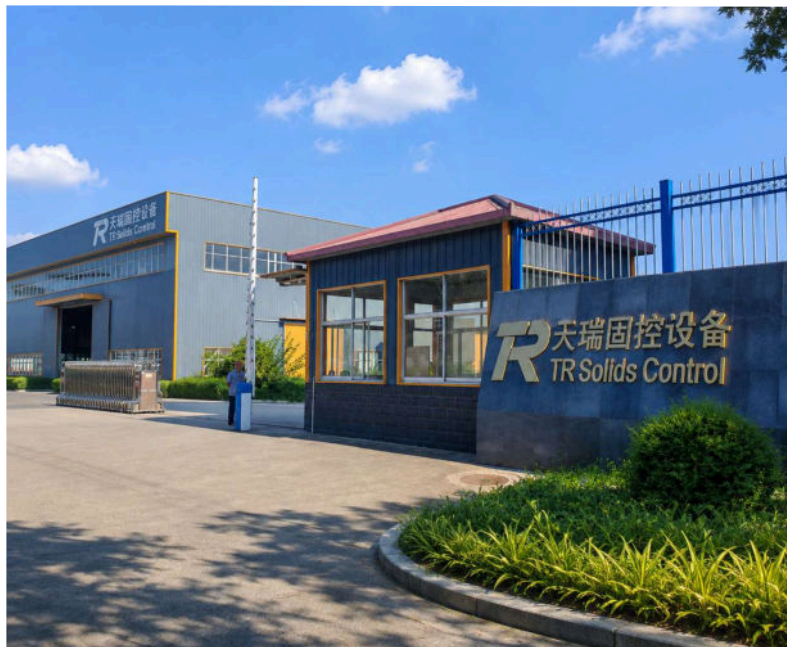


Q1

Registered
Manufacturer

About Us

- Established in December 2010, TR Solids Control is a professional manufacturer specializing in the R&D, production, sales and technical service of solids control equipment and mud recovery systems.
- Headquartered in Xi'an Economic and Technological Development Zone, the company covers an area of over 40 acres and employs 350-450 skilled professionals, including a dedicated R&D team of experienced engineers and technical experts.
- TR Solids Control has established a global presence, delivering reliable solutions to over 60 countries and regions across North America, South America, Europe, Asia, the Middle East and Africa.



About Us



Production Capacity

- Our company operates a modern manufacturing base covering a total area of approximately 35,000 square meters, including 22,000 square meters of standardized industrial workshops. We have established independent blanking, machining, welding, assembly, finished product inspection and warehousing & logistics centers, realizing a full-process closed-loop production system from raw material warehousing to finished product delivery.
- We have established a comprehensive quality control system, equipped with high-precision testing equipment such as coordinate measuring machines, ultrasonic flaw detectors, hardness testers and dynamic balance testing machines. All products are inspected in full accordance with international standards.

Company Qualification

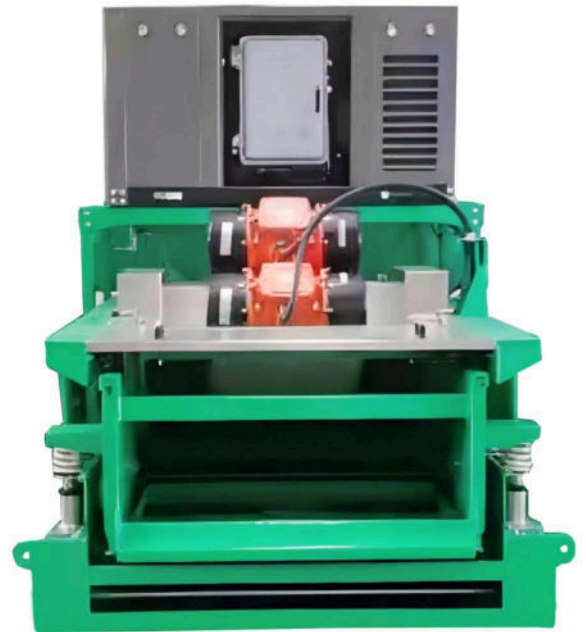


Vacuum Shale Shaker

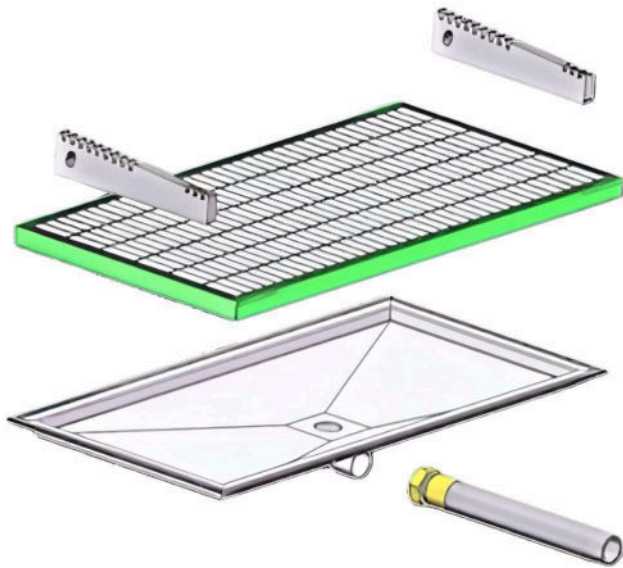
Introduction



- The vacuum shale shaker combines negative pressure technology with vibratory screening for primary solids control in oil, gas, and geothermal drilling. A sealed negative-pressure chamber beneath the screen significantly enhances fine particle separation, overcoming the blinding and low throughput issues common with fine-mesh screens.
- Drilling fluid flowing onto the screen is subjected to simultaneous vibration and vacuum suction, rapidly drawing the liquid phase through the mesh while solids are retained and conveyed to the discharge end. This accelerates liquid passage and enables finer mesh sizes to operate reliably.
- The unit effectively reduces harmful solids content, eases the load on downstream equipment, and lowers material consumption and waste discharge — making it a critical first-stage device for safe, efficient, and environmentally responsible drilling operations.



Vacuum Shale Shaker



Vacuum Chamber Structure Diagram

Operating Principle

- The TRVIST vacuum shale shaker integrates mechanical vibratory screening with vacuum suction into a dual-effect working mode. Drilling fluid is distributed across the screen surface, where dual-motor vibration drives solids toward the discharge end while a vacuum pump maintains a stable negative-pressure zone beneath the screen, accelerating liquid phase penetration through the mesh.
- The sealed chamber design prevents the "liquid sealing" phenomenon on fine-mesh screens, enabling 200-mesh and finer screens to operate reliably. Liquid phase is efficiently drawn into the under-screen collection zone and returned to the circulation system, while oversized solids are retained and discharged continuously.
- Vacuum intensity and vibration parameters can be flexibly adjusted to suit varying drilling fluid properties and throughput demands. The dual separation mechanism significantly improves separation efficiency, reduces harmful solids content, and relieves the processing burden on downstream centrifuges and desander/desilter equipment.



Vacuum Unit



Vacuum Shale Shaker

• TRVIST584 Series Vacuum Shale Shaker Features & Benefits

1

Efficient screening, no blinding

Greatly improving screening capacity for wet, viscous, and ultrafine materials.

Reduced fluid loss

Lower liquid content in discarded cuttings and higher drilling fluid recovery

2

3

Sealed, dust-free

Enclosed chamber combined with vacuum suction eliminates dust emission.

Multi-condition adaptability

Flexible across different job conditions with greater investment value.

4

5

Longer screen life, lower wear

Vacuum-assisted discharge reduces reliance on high-amplitude vibration

Adjustable parameters

Vacuum intensity and vibration parameters can be tuned to quickly match varying drilling fluid properties

6

Applicable Conditions



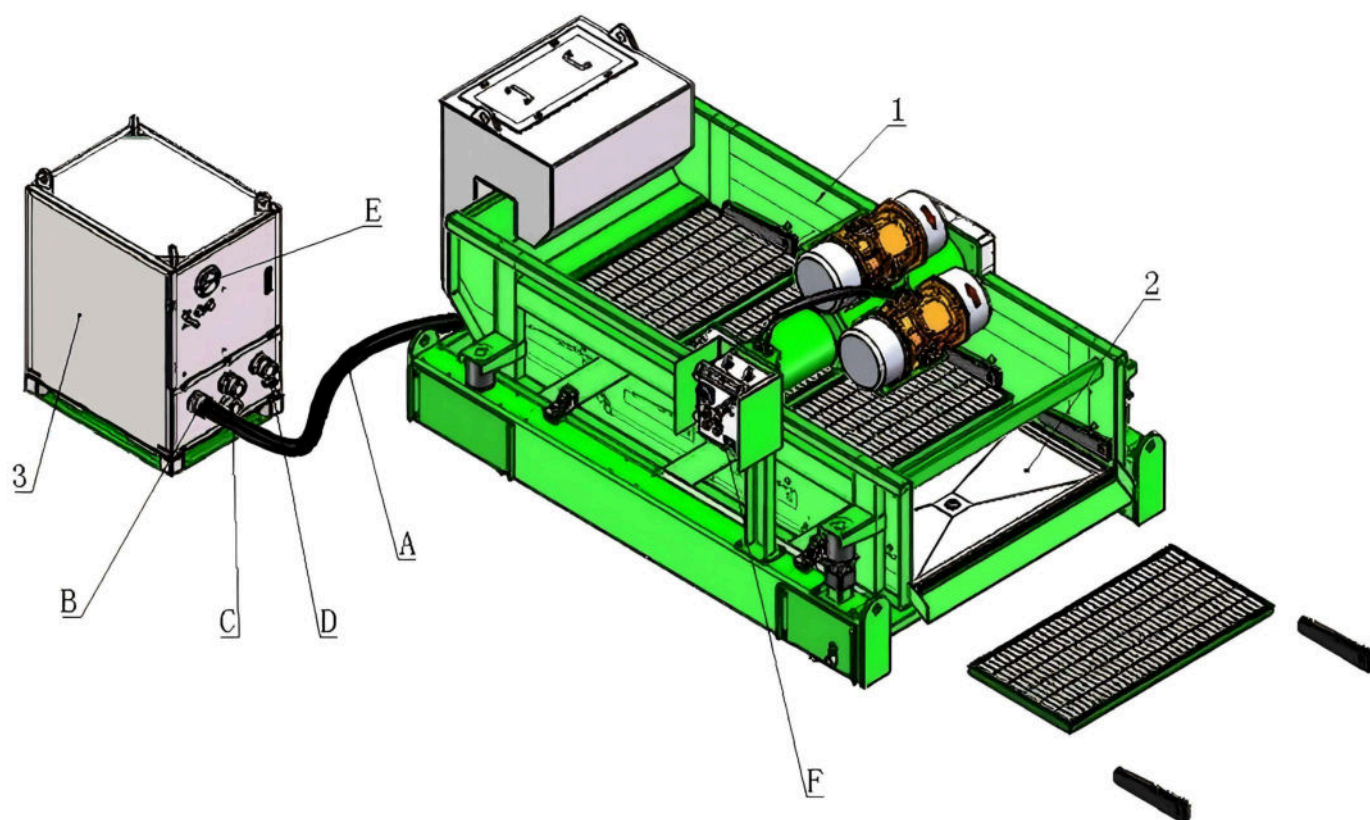
Drilling



Mining / Metallurgy / Environmental Protection

Vacuum Shale Shaker

Parameter	TRVIST-584J	TRVIST-585J
Screen Size	(585×1165mm) × 5 panels	(585×1165mm) × 5 panels
Screen Area	2.7 m ²	3.4 m ²
Motor Power	1.865 kW × 2	1.865 kW × 2
Vibration Intensity	≤7.5G (adjustable)	≤7.5G (adjustable)
Vibration Motion	Linear / Dual-motion	Linear / Dual-motion
Air Supply Pressure	0.7–1.0 MPa (100–150 PSI)	0.7–1.0 MPa (100–150 PSI)
Air Consumption	4.5 m ³ /min (160 CFM)	4.5 m ³ /min (160 CFM)
Max. No. of Shakers	3 units	3 units
Compatible Mud Types	OBM, SBM, WBM	OBM, SBM, WBM
Mud Recovery Efficiency	30%–50%	30%–50%
Mud Recovery per Shaker	2,000–3,000 L/day (additional recovery with ViST)	2,000–3,000 L/day (additional recovery with ViST)
Mud Temperature	-15°C ~ +85°C	-15°C ~ +85°C
Inlet Size & Quantity	2" (× 3)	2" (× 3)
Outlet Size & Quantity	2" (× 1)	2" (× 1)
Air Inlet Size	1"	1"





Xi'an Tianrui Petroleum Machinery Equipment Co., Ltd., established in 2010, is a modern manufacturer of solids control equipment certified to both API Q1 and ISO 9001 standards.

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