

TBM Slurry Separation System



 **Xi'an • China**

energy



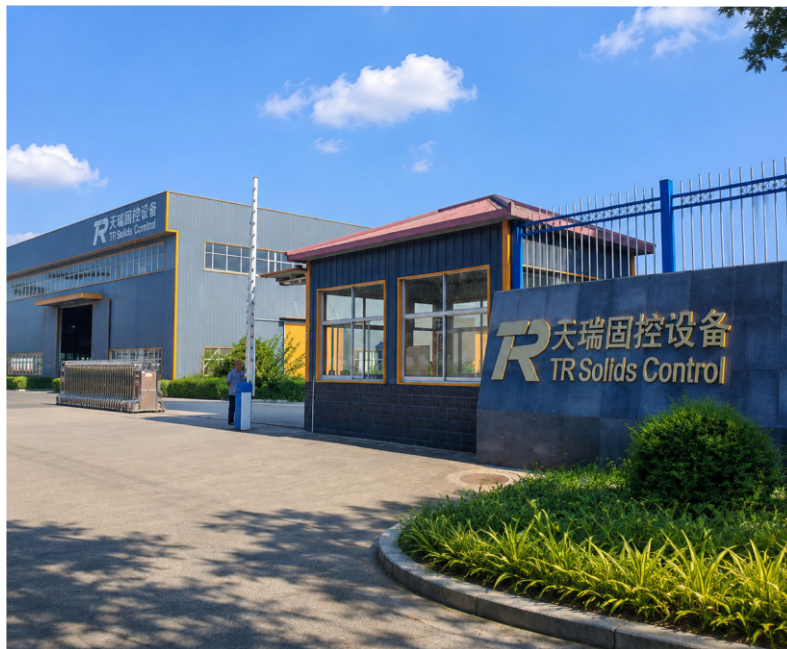
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Registered
Manufacturer

Xi'an Tianrui Petroleum Machinery Equipment Co., Ltd.

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



TBM Slurry Separation System

Introduction



- TR TBM Slurry Separation System is a complete slurry treatment solution designed for slurry shield tunneling projects. It integrates coarse screening, fine screening, desanding, desilting, slurry storage, and recycling, making it ideal for metro, railway, highway, utility tunnel, water diversion, and cross-river or cross-sea tunnel construction.
- The system efficiently removes excavated spoil, sand, and fine solids to maintain stable slurry properties and ensure continuous support for TBM operations. It typically consists of coarse screens, shale shakers, desanders, desilters, slurry tanks, sand pumps, agitators, and an electrical control system. Modular and customized configurations are available to match different geological conditions, TBM sizes, and project capacities.
- With a modular design, high-efficiency separation technology, and reliable operation, the system reduces slurry consumption, minimizes waste discharge, lowers operating costs, and provides an efficient, reliable, and environmentally friendly slurry treatment solution for modern tunneling projects.



TBM Slurry Separation System



Operating Principle

- TR TBM Slurry Separation System combines multi-stage screening and hydrocyclone separation to continuously purify and recycle slurry during slurry shield tunneling. Excavated slurry first passes through the coarse screen to remove large rocks and debris, then flows to the fine shale shaker for further solids removal. The screened slurry is pumped to the desander, where hydrocyclones remove coarse sand, before entering the desilter to separate finer particles and improve slurry quality.
- The cleaned slurry is stored in the slurry tank, where agitators maintain uniform properties before the supply pump returns it to the TBM, forming a closed-loop circulation system. Separated spoil and solids are collected and discharged for disposal.
- Through the process of Coarse Screen ,Fine Shale Shaker ,Desander ,Desilter ,Slurry Tank ,Slurry Supply System, the system reduces solids content, stabilizes slurry performance, maximizes recycling efficiency, lowers waste discharge and operating costs, and provides an efficient, reliable, and environmentally friendly slurry treatment solution for TBM tunneling.



TBM Slurry Separation System

TR TBM Slurry Separation System Features & Benefits

1

High Processing Capacity

Designed for continuous slurry treatment in TBM tunneling operations.

2

Multi-Stage Separation

Efficiently removes solids of different sizes for cleaner slurry.

3

Modular Design

Flexible configurations for various TBMs and geological conditions.

4

Reliable Operation

Stable performance, easy maintenance, and continuous operation.

5

Intelligent Control

Automated operation with efficient monitoring and system management.

6

Energy Saving

Reduces slurry consumption, waste discharge, and operating costs.



TBM Slurry Separation System

TR Slurry Separation System Reference Capacity

Model	Capacity
TRTBM-120B	120m ³ /h
TRTBM-260B	260m ³ /h
TRTBM-360B	360m ³ /h
TRTBM-500B	500m ³ /h
TRTBM-1000B	1000m ³ /h
TRTBM-1500B	1500m ³ /h
TRTBM-2000B	2000m ³ /h
TRTBM-2500B	2500m ³ /h
TRTBM-3000B	3000m ³ /h

Single Module Specifications

Single Module Specifications			
Max. Slurry Processing Capacity	120m ³ /h	Total Installed Power	82.8kw
Separation Cut Point	d50=0.074mm	Max. Moisture Content of Screen Discharge	30%
Coarse Shale Shaker	TRDGS900	Power	2.2kW X 2
Fine Shale Shaker	TRDG700	Power	1.94kW X 2
Desander Capacity	120m ³ /h	Motor Power	37kW
Desilter Capacity	120m ³ /h	Motor Power	37kW
Desander Hydrocyclone	12 in	Quantity	2
Desilter Hydrocyclone	4 in	Quantity	8
Overall Dimensions (L × W × H)	6.5mx2.5mx7m	Total Weight	10t
Solids Content After Treatment	30%	Max. Slurry Density	1.25g/cm ³ (±0.1)



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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