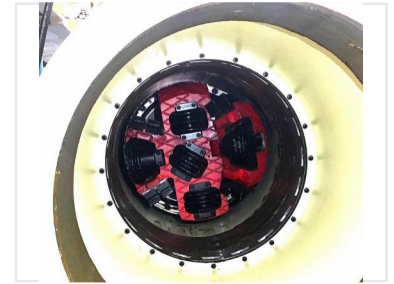


Pipe Roofing Machine for Tunnel Construction

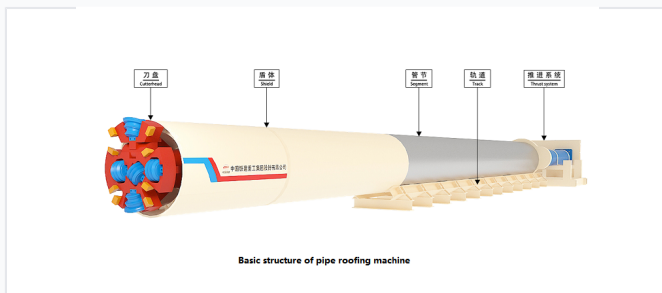
The pipe roofing machine employs trenchless construction technology to pre-support soil around a tunnel face. By building pipe roofs, it ensures safe excavation, particularly when tunneling under existing infrastructure.



ADDITIONAL IMAGES



Overview



Structural overview of the pipe roofing machine components.



Example of a completed pipe roof tunnel structure.

Advanced Trenchless Tunneling Technology

This pipe roofing machine represents a specialized trenchless construction solution designed for pre-supporting soil on the periphery of tunnel faces. By installing a protective canopy of steel tubes before excavation, it ensures safe tunneling operations, particularly when passing beneath existing infrastructure like highways or railways. The system utilizes slurry balance technology for precise pressure control, effectively minimizing ground settlement during construction.

Technical Specifications

Excavation Diameter	720 mm
Machine Weight	63 t
Installed Power	93 kW
Nominal Torque	25 kNm
Maximum Thrust	4000 kN
Total Length (Shield + Back-up)	12 m

Performance Metrics

Daily Advance Rate

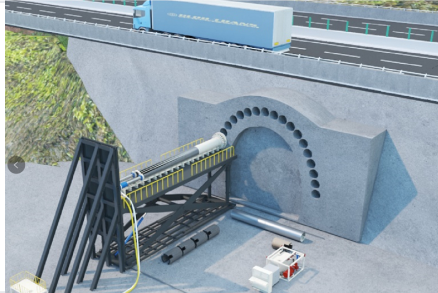
15 m

Average

18 m

Maximum

Operational Features



Close-up of the robust drilling and insertion mechanism.

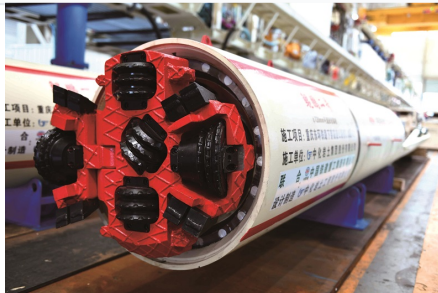
System Capabilities

- Composite cutterhead for complex geologies
- Retractable design for projects without reception shafts
- Slurry balance method for high-precision pressure control
- Automatic measurement system for posture feedback
- Articulation device for deviation correction

Suitable Geologies

Artificial fill, Clay, Mudstone, Sandstone

Project Reference



The machine deployed on-site for tunnel construction.

Reference Project Data

Parameter	Details
Project Name	Chongqing Railway East Loop Project
Machine Type	Pipe roofing machine with slurry support
Quantity Used	3 units