



SHAFT BORING MACHINE SBM: MECHANIZED SHAFT SINKING INTO GREAT DEPTHS.

- High sinking rates.
- High level of safety.
- Integrated system for excavation, mucking and rock support.
- Fully accessible bench.
- Dedicated drill rigs for probing and pre-excavation grouting.
- Semi-partial face excavation system with industry standard disc cutters.

HERRENKNECHT



Tunnelling Systems

The accessible cutterhead is equipped with standard disc cutters.



FAST AND SAFE INTO THE DEPTHS.

REQUIREMENT

PRODUCTION AND VENTILATION SHAFTS FOR DEEP MINES

- Shaft depth: 2,000m (as per requirement)
- Diameter (ID): 10 – 12m (as per requirement)
- Geology: rock
- Increased sinking speed
- Improved safety

Sinking blind shafts to tap underground ore deposits is a time-critical and economically relevant factor. In view of this, Herrenknecht was selected as a partner to design a new type of shaft boring system, capable of sinking 2,000 meter depths at three times the rate of conventional shaft sinking methods. In addition, the customer required a step change in the level of work safety for personnel during the shaft sinking phase. In fact, removing men from shaft bottom reduces the exposure and risk to men significantly. Shaft bottom access is only required when changing the cutting tools and when carrying out necessary pre-

excavation grouting. Accessing the shaft bench is only possible when the cutting wheel is not in operation.



PARALLEL SHAFT SINKING AND ROCK SUPPORT.

SOLUTION

SHAFT BORING MACHINE SBM

- Max. excavation diameter: 11.8m
- Drive: 0 – 6rpm
- Total weight: approx. 3,000t
- Disc cutters: 19"
- Muck transport: vertical conveyors

Working in partnership with leading international mining company Rio Tinto, Herrenknecht has developed a mechanized shaft boring machine capable of sinking shafts of up to 2,000 meters in depths in hard rock in an industrialized process. Excavation, mucking and rock support are carried out simultaneously in a single system, enabling high sinking rates. Worn disc cutters can be readily replaced in a safe and secure working area. A special feature of the system integrates rock bolters and systems for probe and injection drills.



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Building the future together. Herrenknecht AG is a technology and market leader in mechanized tunnelling. Herrenknecht is the only company in the world to supply high-tech boring machines for all ground conditions and in all diameters.

