

DHBM1750

**FASTER  
SAFER  
MORE PRECISE**



## Downhole Boring Machine DHBM1750

- › Precise, fast and safe excavation of vertical blind holes in hard rock
- › Quick positioning and relocation in narrow drives and tunnels
- › Improved working conditions and low risk exposure through various safety features
- › Compact and reliable electrohydraulic drive for drilling operations in the underground facility
- › Efficient remote-controlled diesel-powered carrier for tramming and setup
- › Control cabin for ergonomic operation during drilling and maximum work safety
- › Highly efficient and proven cutting and muck removal technology for high excavation rates in hard rock

**PIONEERING  
UNDERGROUND  
TECHNOLOGIES**





# Downhole Boring Machine DHBM1750

## Technical specifications



The DHBM in operation in a tunnel or cavern excavating vertical blindholes. Slurry treatment located in a tunnel or cavern nearby (distance up to 350 m possible).



Self-propelled drilling rig accommodating drilling equipment.



Support Unit accommodating peripheral equipment for drilling operation.



Slurry treatment plant and pumping system.

**Herrenknecht has developed the Downhole Boring Machine DHBM1750** for the fast and safe excavation of vertical holes with a depth of 10 m and deeper in stable hard rock in a consecutive manner. The DHBM is designed for the mechanized excavation of highly accurate blind shafts with small diameter ( $\varnothing$  1,765 mm) and for improved work safety conditions in narrow working environments. Its compact dimensions combined with the innovative crawler carrier system enables a highly flexible and precise maneuverability in confined spaces of underground mines. The crawler-based drilling rig and its trailer-based support unit are specially designed for underground use and enable autonomous positioning of the DHBM. The powerful full face cutting technology and its innovative mucking system ensure maximum performance.

### GENERAL TECHNICAL SPECIFICATIONS

- › Transport dimensions (l/w/h):  
17.7 m/3.2 m/4.0 m (58,1 ft/10,5 ft/13,1 ft)
- › Total weight: 100,000 kg (220,462 lb)
- › Single weight Boring Unit:  
78,000 kg (171,961 lb)
- › Single weight trailer incl. machine equipment:  
22,000 kg (48,502 lb)

### BORING PARAMETERS

- › Cutting diameter: 1,765 mm (5,79 ft)
- › Drill angle: Vertical
- › Bore hole depth:  $\geq$  10 m ( $\geq$  32.8 ft)
- › Nominal rotational speed: 0 rpm – 12 rpm
- › Max. torque: 210 kNm (154,888 lbf.ft)
- › Drive type: hydraulic

Navigation system to ensure accurate positioning of the borehole.

High accuracy with a borehole deviation of less than 1%.

Exactly round borehole with little overcut.

### JACKING FRAME

- › Number of cylinders: 2 units
- › Max. thrust force: 2,500 kN (562,022 lbf)
- › Max. pull force: 1,000 kN (224,809 lbf)
- › Stroke: 1,370 mm (4,5 ft)

### CRAWLER CARRIER AND DIESEL POWER UNIT

- › Max. downward/upward gradient (loaded): 20 %
- › Max. speed on flat ground: 2 km/h (1.24 mph)
- › Min. turning radius: 11 m (3,4 ft)
- › Motor type: Diesel
- › Installed motor power: 100 kW (134,1 hp)

Crawler carrier system provides a high degree of flexibility and allows accurate positioning.

All movements are hydraulically operated and remote controlled.

Optional: Electric powered crawler carrier system

### HYDRAULIC POWER PACK

- › Drive type: electrohydraulic
- › Total installed power: 200 kW (268 hp)
- › Power requirement: 250 kVA
- › Voltage: 400 V – 1,000 V
- › Frequency: 50 Hz or 60 Hz
- › Hydraulic tank capacity: 1,000 l

An electrical connection to the mine network is required for the operation of the power pack. Compact and optimized integration of all components ensuring easy access for service.

### MUCKING SYSTEM

- › Separation plant: HKS150 FS
- › Max. flow rate: 150 m<sup>3</sup>/h (5297 ft<sup>3</sup>/h)
- › Screening area: 2 x 3,2 m (2 x 10,5 ft)
- › Total installed power: 76 kW (101,9 hp)
- › Supply voltage: 400 V – 1,000 V
- › Frequency: 50 Hz or 60 Hz
- › Slurry pump installed power: 55 kW (73,8 hp)
- › Slurry pump supply voltage: 400 V – 690 V
- › Slurry pump supply frequency: 50 Hz or 60 Hz
- › Feed pump installed power: 55 kW (73,8 hp)
- › Feed pump supply voltage: 400 V – 690 V
- › Feed pump supply frequency: 50 Hz or 60 Hz

All functions are controlled via control tableau.

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