SBR

CUTTING-EDGE SHAFT BORING TECHNOLOGY

Shaft Boring Roadheader SBR

- Mechanized excavation of mine shafts
- Continuous muck removal from shaft bottom
- Soft to medium-hard rock with up to 120 MPa
- Shaft depth up to 1,600 meter
- Adaptable to different shaft geometries and diameters from 7 to 12 meter
- Flexibility in shaft lining methods: shotcrete, rock bolting, mesh, segments or liner plates
- Increased shaft sinking speed by parallelization of work steps
- High level of work safety through remotely controlled operations
- Less impairment of the surrounding geology

PIONEERING UNDERGROUND TECHNOLOGIES

HERRENKNECHT
Tunnelling Systems

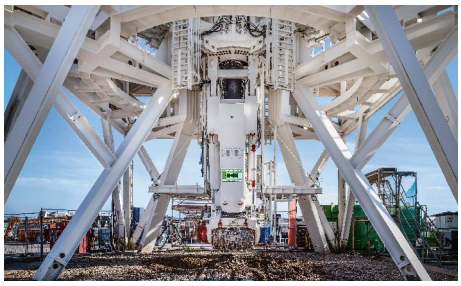
Shaft Boring Roadheader SBR
Technical specifications

The Herrenknecht Shaft Boring Roadheader (SBR) is the optimal technology for mechanized shaft sinking in frozen ground or soft to medium-hard rock. A design milestone is the pneumatic mucking system. This allows the demucking of the bench and optimises the material handling by the shaft hoist. The SBR meets the key requirements of the mining industry: rapid construction and the highest level of safety.

Jansen Mine
Commissioned by BHP Billiton Ltd., DMC Mining Services deployed two Shaft Boring Roadheaders for a potash project in Saskatchewan, Canada. The successful finalization of two 1,000 meter deep shafts in August 2018 marks a milestone in mechanized full-bottom shaft sinking proving its superiority in terms of work safety and advance rates.

Nezhinsky Mine
The Nezhinsky GOL of the Russian mining company IOOO Slavkaliy is the second mine in Belarus for the extraction of potash ore and the production of potash fertilizers. In December 2018, Deilman-Haniel started sinking two 730 meter deep shafts using two Shaft Boring Roadheaders to develop this potash mine.

Woodsmith Mine
The Woodsmith mine in North Yorkshire, UK, is developed by Sirius Minerals Plc. The mine contains the largest, highest grade resource of polyhalite worldwide. DMC Mining Services has the task of sinking two 1,600 meter deep shafts with two Shaft Boring Roadheaders for mine development.



The Shaft Boring Roadheader's (SBR) telescopic boom and cutting drum.

The SBR has proved itself as a game changer in mechanized shaft sinking.

GERNERAL	JANSEN MINE	NEZHINSKY MINE	WOODSMITH MINE
› Commodity:	Potash	Potash	Polyhalite
› Shaft depth:	1,000 m	730 m	1,600 m
› Frozen shaft:	yes	yes	no
› SBR weight:	380 t	400 t	350 t
› Max. cut diameter:	12.3 m	12 m	10.5 m
› Tubbing:	yes	yes	yes
› Bolt and mesh:	yes	no	yes
› Concrete line:	yes	yes	yes
› Shotcrete:	yes	no	optional

CUTTING DRUM

- Rotational speed: 0–90 rpm
- Power: 600 kW
- Max. torque: 140 kNm
- Drive type: hydraulic
- Boom telescope: 1,200 mm

PNEUMATIC MUCKING SYSTEM

- Muck flow: 50 m³/h
- Suction tank capacity: matching the muck bucket
- Filter type: dry

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