

AVNS350XB

LONG DISTANCE TUNNELLING FOR SMALL DIAMETERS



AVNS350XB Tunnel Boring Machine

- › Suitable for mixed soil conditions, loose ground and soft rock
- › Equipped with a slurry jet pump for a continuous drive
- › High-pressure water system for operation in cohesive soil
- › Hydraulic power pack integrated in machine
- › Perfectly suited for small diameter and long-distance tunnelling

**PIONEERING
UNDERGROUND
TECHNOLOGIES**

Supported by



Federal Ministry
for Economic Affairs
and Energy

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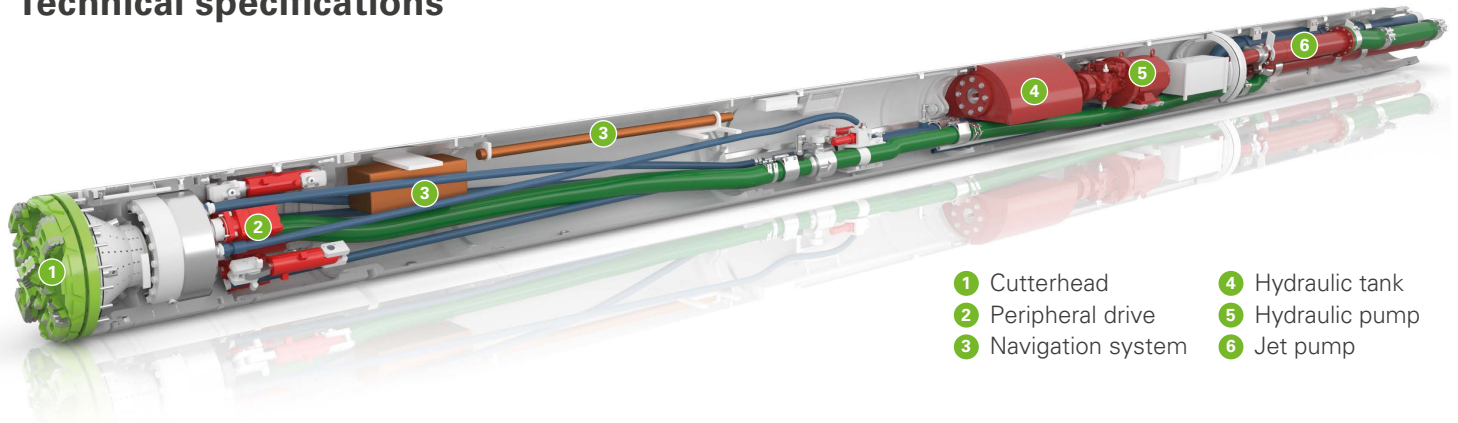
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Tunnelling Systems

AVNS350XB Tunnel Boring Machine

Technical specifications



- 1 Cutterhead
- 2 Peripheral drive
- 3 Navigation system
- 4 Hydraulic tank
- 5 Hydraulic pump
- 6 Jet pump

The fully remote controlled AVNS350XB tunnel boring machine is equipped with an innovative jet pump system and an integrated hydraulic power unit. It has a minimal excavation diameter of 505 millimeters. Through the use of the jet pump for transporting the muck, the technology now enables drives up to 10 times longer than previously in the small diameter range at shallow depths. That means drive lengths of up to 2,000 meters with an installation depth of 1.5 meters are possible. The machine stays precisely within the planned alignment and thus safely crosses under existing infrastructure.



Integrated hydraulic unit



Fully remote controlled



Steel pipes for continuous advance

AVNS350XB

Articulated Shield

- › Cutting wheel diameter: min. 505 mm
- › Outer diameter: 490 mm

Main drive

- › Max. torque: 10 kNm
- › Revolution LH/RH: 5 rpm–24.5 rpm
- › Rated power: 22 kW
- › Roll correction

Steering

- › Steering cylinders: 3
- › Force per cylinder/oil pressure: 95 kN/400 bar
- › Stroke per cylinder: 10 mm

Control

- › Fully visualized process control
- › Computer data logging system
- › Navigation system: ParaTrack System
- › Fuzzy control (automatic steering)
- › Active roll protection (electric hydraulic)

GENERAL INFORMATION

- › Maximum drive length: 2,000 m
- › Waterproofness: 3 bar
- › Feed line diameter: 80 mm
- › High pressure line diameter: 100 mm
- › Conveying line diameter: 125 mm
- › High pressure water system

MACHINE DIMENSIONS

- › Length artic. shield (L_{AS}): 10,500 mm
- › Max. single weight (w): 3,500 kg

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