



Magnetic Track Brakes



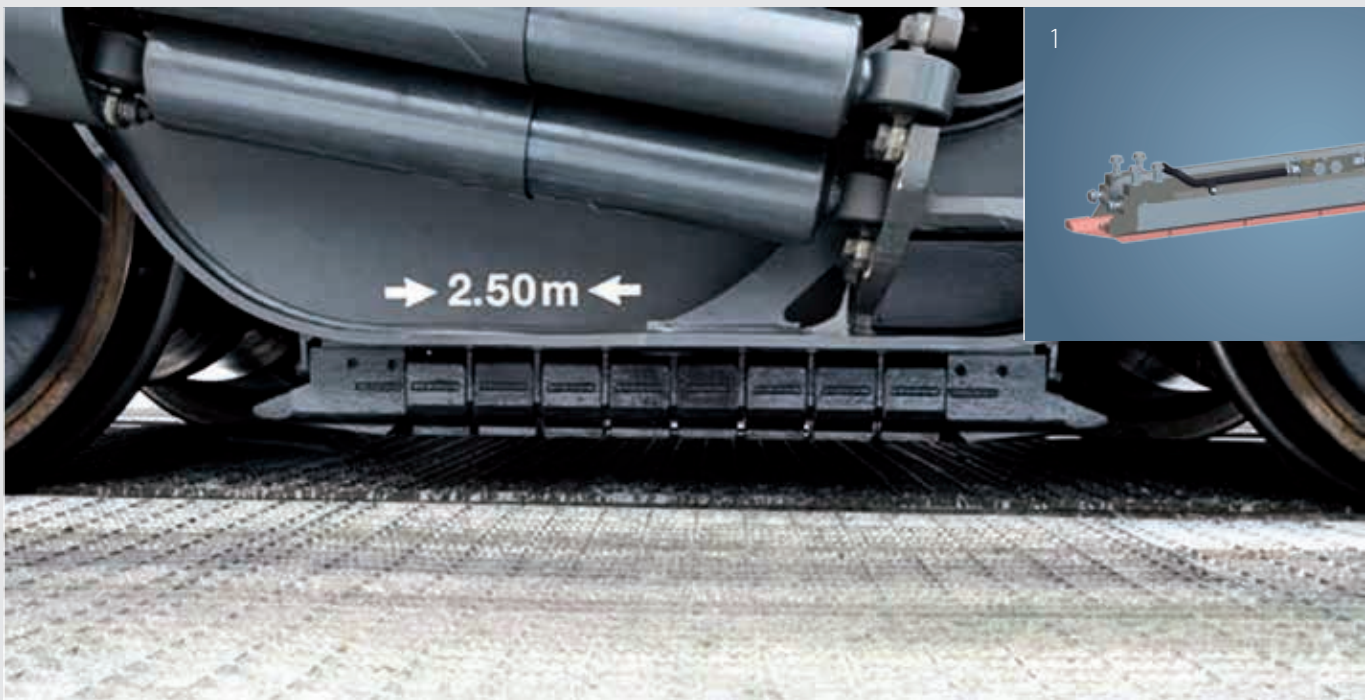
APPLICATIONS

Main Line: Passenger coaches | Regional and commuter trains |
High-speed trains

KNORR-BREMSE



MAGNETIC TRACK BRAKES

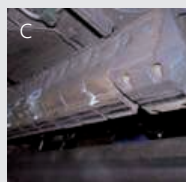
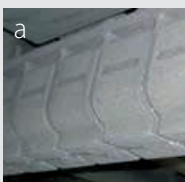


APPLYING BRAKING FORCE DIRECTLY TO THE RAIL. Track brakes from Knorr-Bremse offer performance and reliability demonstrated by extensive in-service operation around the world.

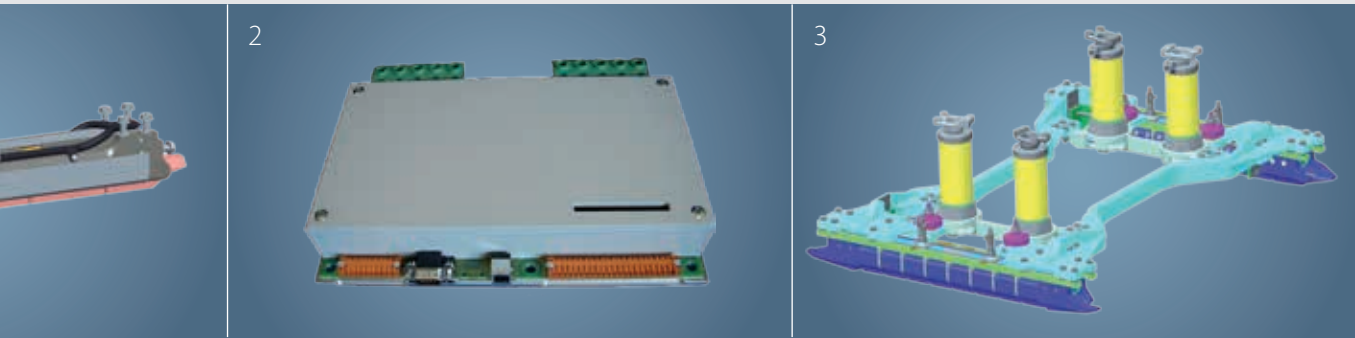
FUNCTION

- The retarding effect of wheel brakes such as pneumatic friction brakes is limited because it is heavily influenced by the degree of adhesion between wheel and rail
- Track brakes do not rely on wheel-rail adhesion and can be used to deliver additional braking if required
- Track brakes apply braking force directly to the rail (in the opposite direction to that of travel)
- Magnetic track brakes are magnetically attracted to the rails. Braking force is built up by using the friction between magnetic track brake and rail. Automatic braking and also emergency braking are typical tasks for magnetic track brakes
- The magnetic track brake is always unregulated and applies its maximum braking force
- Depending on the friction material of the pole shoes, various braking performances can be achieved.

FRICITION MATERIALS



- » **a** Steel
b Sinter
c Nodular cast iron



MODULAR MAGNETIC BRAKE CONTROL

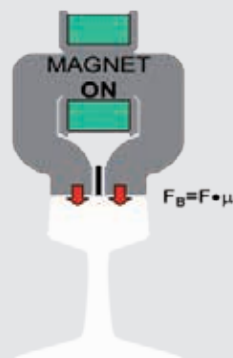
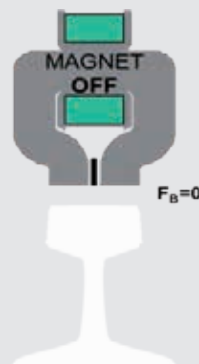
- Automatic braking test
- Self contained control of MTB
- Diagnostic functions
- Modular system for all supply voltages

- » 1 Example of MTB designs applied to high-speed traffic
- 2 Control unit for magnetic track brakes
- 3 Example for MTB designs applied to cross-border long-distance, main line and high-speed traffic

ADVANTAGES OF THE MAGNETIC TRACK BRAKE

- The track brake is an additional brake that is not dependent on adhesion. The total deceleration can be increased safely
- Due to the track-cleaning effect of the brake magnets, the coefficient of adhesion between the wheel and the rail is increased during braking. This also results in an improvement of the performance of the wheel brake systems

- » Functional principle of the magnetic track brake



RANGE OF USE

The MTB is activated automatically in the case of emergency braking and should also be activated under low adhesion conditions or on steep descents.

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