

SF 7000

Bogie-platform for electrical multiple units

The bogie SF 7000 was developed especially for the UK market to equip regional trainsets for speeds of up to 160 km/h.

The platform consists of two-axle air-suspension trailer and motor bogies with a two-stage spring/damper system.

Track friendliness is one of the basic characteristics of this bogie. This means minimum wheel/rail wear and low wheel/rail forces when negotiating curves. This characteristic is made possible by the combination of using inner bearings and a weight-optimized design. It was possible to keep down life-cycle costs due to the reduction in service and maintenance expenditure.

Primary suspension comprises laminated springs of metal-rubber design with good self-damping characteristics. Axle guidance is effected by a link.

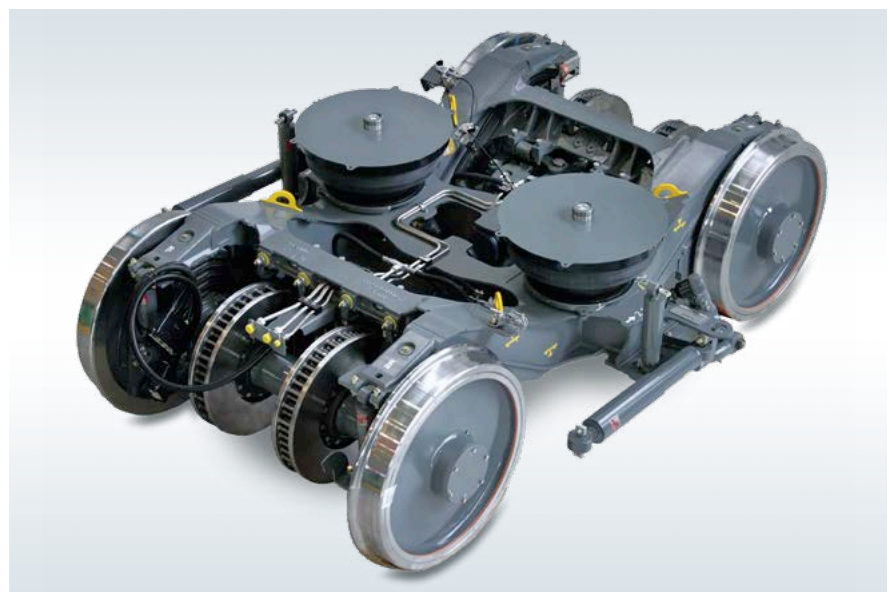
The secondary suspension stage features air springs with coupled additional air volume, offering excellent ride quality. Optionally an electronic valve is used for air-spring control in order to minimize the air requirement of the spring and to achieve a higher accuracy of height control. A high level of passenger ride comfort is achieved by using a lateral damper and two secondary vertical dampers.

All longitudinal forces between bogie and carbody are transmitted via a centre pivot.

Traction is effected by means of lateral, fully suspended traction motors (fixed to the frame) each via a low-noise spur gear unit and a curved tooth coupling.

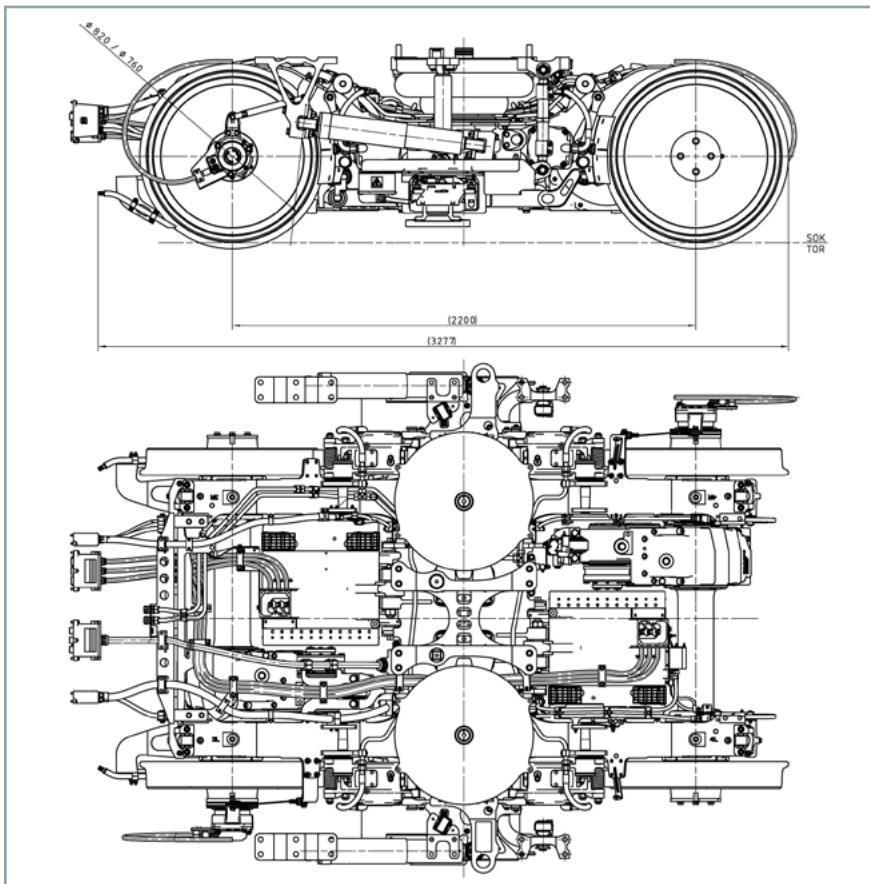
By separating the coupling, the complete wheelset/gear unit can be exchanged without having to dismount the traction motor.

The traction motors are acoustically decoupled from the bogie frame. The mechanical brakes in the motor bogie are designed as a shoe-brake unit acting on one side, offering advantages for maintenance. The brakes on the trailer bogie are disc brakes with 2 discs per wheelset.



Technical data

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| Bogie | SF 7000 |
| Running speed | 160 km/h |
| Maximum axle load: Motor bogie/trailer bogie | Max. 15.5 t / 14.5 t |
| Wheelbase motor/trailer bogie | 2200 mm / 2100 mm |
| Track gauge | 1435 mm |
| Wheel diameter new/worn | 820/760 mm |
| Smallest radius of curvature in service/workshop | 120/90 m |
| Weight (with fittings) motor/trailer bogie | 5.8 t/4.1 t |
| Height, connection to carbody (top of air spring) | 880 mm |
| Traction motors | Partly suspended, air-cooled |



References

Thameslink
South West Trains
Moorgate (GTR)



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The information given in this document contains general descriptions of technical possibilities which may not always be available in a particular case. The requested performance characteristics have therefore to be defined in the event of contract ward for the particular case in question.