

SF 4

Bogie-platform for electric locomotives

The SF 4 bogie-platform was developed for use in the Vectron high-performance locomotive. The SF 4 is suitable for all types of the Vectron electric locomotive.

The bogie is configurable according to the requirements of the operator in the operation area. Thus the bogie is prepared for the mounting of different packages of European train control antennas, sanding and wheelflange-lubrication is possible on each wheel. Also different types and configurations of brake release handles are possible.

The SF 4 bogie platform is characterized by the following features:

- Modular design with various optional equipment
- Robust, fully welded bogie frame
- Reduced stiffness of axle box linkage to provide good curve and running behaviour
- Tractive force transfer by means of low level traction linkage with a pivot to the central support strut of the bogie frame
- Secondary suspension stage support points (flexi coil springs)
- Hollow pinion shaft drive
- Wheel disk brakes

The bogie frame consists of sealed welded box profiles. Its main components are two longitudinal supports, a central cross strut and two end supports.

The wheelset consists of two rolled mono-block wheel disks and a forged hollow shaft.

The transfer of the tractive and braking forces from the bogie to the locomotive frame involves a square bogie pin. The bogie pin is welded to the under-frame of the locomotive box.

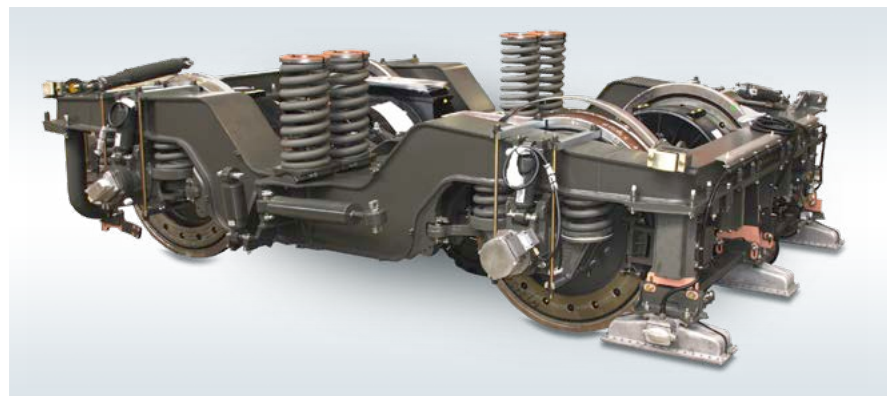
The locomotive body is supported on each bogie using four flexi coil springs. These secondary springs are arranged in pairs perpendicular to the direction of travel.

The wheelset guidance is carried out with triangle rods for an optimized adjustment between longitudinal and transversal stiffness of the wheelset guidance. This design allows the smallest possible forces between wheel and track.

The locomotive is designed to travel on track levels as defined in EN 14363:2005/UIC 518:2009 QN2. The minimum track curve radius to be travelled during commercial operation is 150 m.

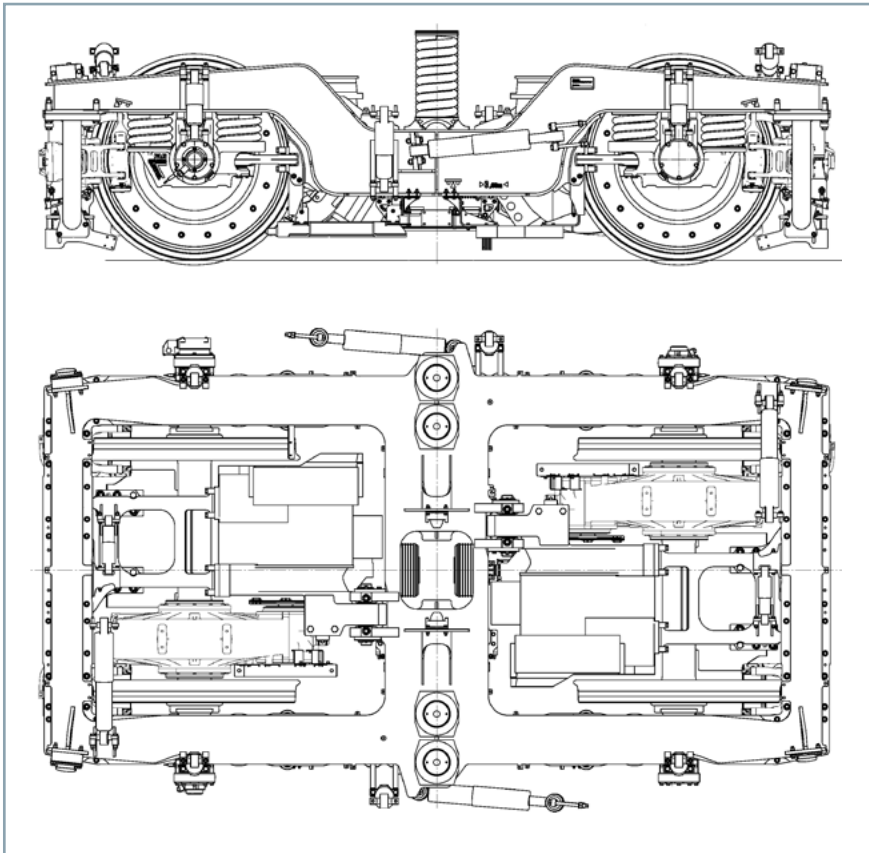
The SF 4 bogie platform meets the highest technical and economical requirements and is designed according to the latest state of the art. Nevertheless the bogie is based on proven design principles and service proven components.

Good accessibility to the areas to be checked during the maintenance periods is provided by the design. Wear and tear components are also easily accessible.



Technical data

Bogie	SF 4
Running Speed	Max. 200 km/h
Axle load	Max. 22.5 t
Max. starting tractive effort per wheelset	75 kN
Max. power per wheelset	1600 kW
Wheelbase	3000 mm
Track gauge	1435 mm
Wheel diameter new/worn	1250/1160 mm
Smallest radius of curvature in operation/depot in service/workshop	150/100 m
Weight	Approx. 18 t



References

Vectron/Siemens VLL 1
 Vectron/Siemens VLL 2
 Vectron/Railpool Europe
 Vectron/DB Schenker
 Vectron/Fuori Mori
 Vectron/MRCE
 Vectron/Paribus Rail Portfolios
 Vectron/boxXpress
 Vectron/Cargo Serv



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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.