

MoComp Bogie SF35

Motor Bogie for low floor tramcar Avenio

The SF 35 bogies are a further development of the SF 30 bogies and are in service in the low floor tram Avenio.

Low heights and flat ramps

As for Combino plus the bogies for Avenio are in the middle of each car body section and operate with a swiveling angle of 4.5°. The floor height in the bogie area is 435 mm which allows flat ramps. The bogie concept for motor and trailer bogie are largely the same. The differences between powered bogie and trailer bogie are limited to the traction unit, the stub axle and brake equipment.

Proven suspension concept, higher capacity

Longitudinal forces are transmitted via 2 rubber buffers with sliding plates, which are located on the transversal beam of the bogie frame. The secondary suspension is performed by 2 Combi-springs. These springs consist of 1 rubber layer spring which allows for horizontal movements and a conical rubber spring that makes the vertical deflection. A major advantage is the position of the secondary springs, which allow to arrange 16 seats above the bogie and thus increase the transport capacity. Two anti-roll bars give the system the required stiffness against unacceptable rolling movements. For primary suspension, the same conical rubber springs as for the original bogie design are applied.

Completely suspended traction unit to for small unsprung mass

The motor bogies with the outboard longitudinal traction units have small unsprung mass and a low center of gravity compared with other 100% low floor bogies. The motor bogie is equipped with completely

suspended traction drive units with self-ventilated asynchronous motors. The wheels of these motors are arranged in line and are mechanically coupled by means of the motor gearing unit. This design gives the bogie excellent axle guidance characteristics such as self-centering and low tendency to lateral oscillation. The traction drive units are equipped with spring-loaded brakes, with the brake disc directly arranged on the motor shaft. This allows an easy access to all major traction and brake components. The torque transmission from the traction motor to the front and rear wheel is affected by a low-noise bevel gear and two link couplings, which are arranged at different levels. For the trailer bogie the brake disc is directly flanged to the wheel. Braking is carried out by active brake calipers. The stub axle carries internal mounted tapered roller bearings.

H- shaped frame with 30% less mass

The H-shaped bogie frame is a combination of steel plates, as well as cast and forged parts. Special focus was put on light weight design which allowed to reduce the bogie mass by approximately 30%.



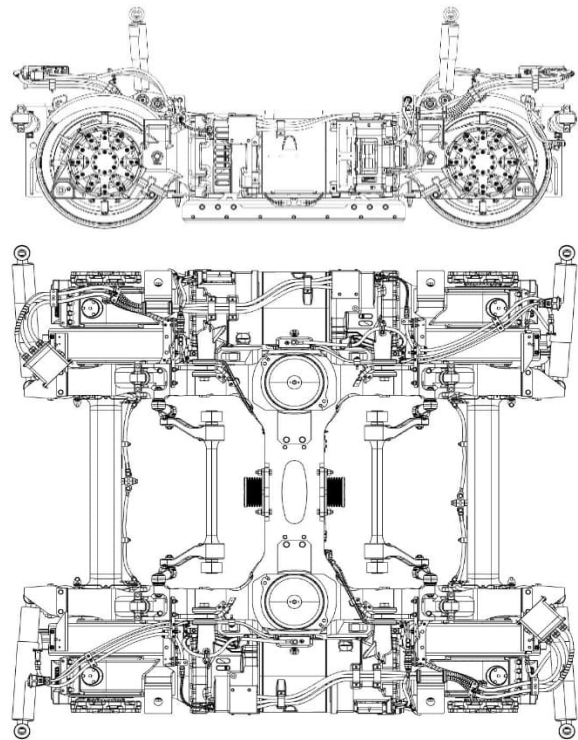
SF35 motor bogie

Technical data SF35

Bogie	SF35
Running speed	80 km/h
Axle load	2 x 10,5 t
Continuous power per bogie	2 x 100 kW
Wheelbase	1800 mm
Track gauge	1435 mm
Wheel diameter new/worn	600(610) / 520 mm
Smallest radius of curvature in service/workshop	18 m
Weight MBG/TBG (with tread brakes)	approx. 4,8/ 3,2 t

References:

Munich
Nuremberg
The Hague
Copenhagen
Qatar Education City
Bremen



SF35 Motor bogie

Published by

Siemens Mobility Austria GmbH

SMO RS CP BG&P

Eggenberger Straße 31

A-8020 Graz

Austria

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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.

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