



LOW-FLOOR LIGHT RAIL VEHICLE VARIOBAHN

Bochum-Gelsenkirchener Strassenbahnen AG (Bogestra)

In October 2004 and June 2010, Bogestra ordered a total of 45 (30 plus option on 15) Variobahn for service in Bochum, Gelsenkirchen and Herne. Another order for 42 plus 8 options followed in August 2015. The bi-directional vehicles have 100 per cent low-floor area throughout. The vehicles have been in service since 2008.

The Variobahn is a modern, modular tram system with defined interfaces and a high level of flexibility in terms of length, width, gauge and catenary voltage. This allows optimum adaptation to the customer's needs. Unlike the first order in October 2004, the Variobahn now has a welded-in roof.

The generous carriage width makes for a spacious interior within the Variobahn, with a bright and welcoming passenger area.

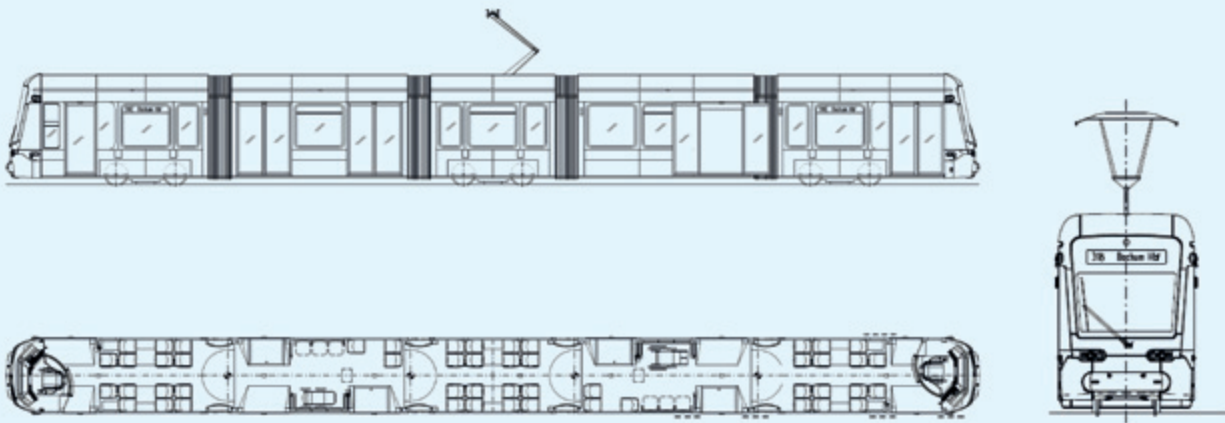
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Technical features

Technology

- Modular design based on main functions (head module, motor bogie module, passenger module, trailer bogie module)
- Bi-directional vehicle
- Body shell made from high-alloy steel
- Adhesive bonding technology for external panelling
- Length and width can be adjusted using selected modules and pitches

Comfort

- Constant floor level: 100 % low-floor
- Free seat configuration in the passenger modules
- Seats hung-mounted in the passenger modules
- Fully air-conditioned passenger compartment and driver's cab

Personnel

- Ticket sales from the driver
- Ergonomically designed driver's cab

Reliability / Availability / Maintainability / Safety

- Fire protection for vehicles that can be operated in tunnels

Vehicle data

Customer	Bochum-Gelsenkirchener Strassenbahnen AG (Bogestra)
Areas serviced	Cities of Bochum, Gelsenkirchen and Herne
Number of vehicles	45/42 + 8
First delivery	2008 + 2016
Vehicle length	29620 mm
Vehicle width	2300 mm
Height (over roof-mounted components)	3350 mm
Access height from top of rail	300 mm
Floor height LF (100%)	350 mm
Aisle width	520 mm
Gauge	1000 mm
External sliding doors, 5 per side	
Wheel diameter	650/570 mm (new/worn)
Driving wheels/carrying wheels	8/4
Catenary voltage	600/750 V
Drive system	8 × 45 kW
Max. speed	70 km/h
Seats	56 (incl. 6 tip-up seats)/ 64 (incl. 20 tip-up seats)
Standing capacity (4 pers./m²)	128 / 116
Min. curve radius	18 m