

GTW 2/6 low-floor, articulated, diesel-electric multiple unit for Usedomer Bäderbahn (UBB)



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Usedomer Bäderbahn – a wholly-owned subsidiary of DB Regio AG – began operating a fleet of 14 GTW 2/6 vehicles at the start of its summer timetable 2000 on the island of Usedom. The vehicles have spacious, bright passenger areas. With 2+3 seating, the vehicles provide seating for 126 passengers. An important feature in this tourist region is the large multi-purpose vestibule, which provides adequate space for the transport of luggage and bicycles. Easy access to the drive components in the central drive module means that routine servicing can be carried out in a very short time, which guarantees a high level of availability of the fleet.



Technical Features

- Modular design of passenger modules and diesel-electric drive module
- Lightweight construction of end cars in aluminium
- Designed to withstand a longitudinal impact of 1500 kN
- Concentration of drive equipment in one drive module
- Sources of noise and vibration are completely isolated from the passenger modules
- Powerful propulsion system consisting of a diesel engine with three-phase generator, a rectifier, water-cooled IGBT power converters and two asynchronous traction motors
- Optimum acceleration by having drive equipment mounted directly on driven bogie
- Driven bogies fitted with self-steering, radially-adjusted wheelsets and optimised distribution of the load on the axles
- Multiple-unit control due to the use of the MITRAC vehicle control system, with coupling of up to three vehicle units
- Bi-directional vehicle designed for one-man operation
- Platform level access points with no steps and wide doors; low-floor content 70 %
- Air-conditioned passenger areas and driving cabs
- Concealed toilet system handicapped/disabled proof
- Destination displays and passenger information system
- Ergonomically designed driving cab
- Equipped with diagnostics computer and EBULA display
- Entire central module can be replaced for maintenance purposes
- Additional investment in workshop facilities is virtually unnecessary

Vehicle Data

Customer	Usedomer Bäderbahn
Designation	BR 646.1
No. of vehicles	14
Entered service	1999/2000
Route operated	Insel Usedom: Züssow – Wolgast – Ahlbeck Grenze; Zinnowitz – Peenemünde
Gauge	1.435 mm
Overall length	38.660 mm
Vehicle width	3.000 mm
Vehicle height	3.850 mm
Floor height	
- Low floor	585 mm
- High floor	1.000 mm
Door width	1.300 mm
Longitudinal impact	1.500 kN
Seating capacity 2nd Cl.	126
Standing capacity (4 Pers./m ²)	91
Tara weight	54 t
Axle arrangement	2' Bo 2'
Bogie wheelbase	
- Power bogie	2.000 mm
- Trailer bogie	2.000 mm
Powered wheel diameter, new	860 mm
Trailer wheel diameter, new	680 mm
Supply voltage	Dieselmotor MTU 12V 183; 550 kW
Max. speed	120 km/h
Max. acceleration	0.85 m/s ²
Max. power at wheel rim	420 kW
Starting effort	62 kN

The vehicle concept for the GTW was developed by Stadler, with the following manufacturing companies involved in the production for DB AG, the client:

Electrical part	Adtranz, DaimlerChrysler Rail Systems (Switzerland) AG
Mechanical part	Bombardier Transportation, Bautzen Stadler Busnang AG, Busnang
Running gear	Adtranz, DaimlerChrysler Rail Systems (Switzerland) AG