



REGIONAL TRAIN "CAPRICORN"

Rhätische Bahn (RhB), Switzerland

Rhätische Bahn ordered 36 four-car multiple units in June 2016 and took up an option for 20 more trains in June 2020. Operational on the lines between Landquart and Davos, through the Vereina Tunnel to Engadine and between Chur and Disentis, they are designed to reach a maximum speed of 120 km/h. One of the special characteristics of this train is its ability to split, meaning that multi-car trains can separate while they are running. The two different trains continue to different destinations. In the opposite direction, the two trains are linked up again and continue together. This enables a 30-minute service to run on the single-track route between Landquart and Klosters and avoids costly line extensions for stakeholders. The train features automatic couplers to ensure that the ride quality remains smooth while the train is dividing. The new RhB trains are easy to use for people with reduced mobility and three of the four carriages feature a low-floor entrance area. There is also a disabled access toilet, wheelchair bays and tactile markings for visually impaired passengers. Spacious multifunctional areas have been allocated for bicycles, pushchairs or skis. The air-conditioned compartments feature drop sash windows that can be opened. To promote passenger safety, a fire fighting system has been installed.

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Technical features

Engineering

- Integral construction aluminium car body
- Air-cooled dry transformer
- Drop sash windows in the compartments

Comfort

- Air-conditioned passenger compartments
- Low-floor entrance areas in most areas
- Barrier-free equipment
(Entrance areas, wheelchair bays, toilets, tactile markings)
- Modern passenger information system
- Power sockets in all compartments
- Front camera to transmit the view from the driver's cab

Personnel

- Air-conditioned driver's cabs
- Collision protection in compliance with most recent standards
- Modern driver's cab equipment

Reliability / Availability / Maintainability / Safety

- Fire alarm and fire-fighting system
- Proven system components
- Adapted Alvro-train-style design

Vehicle data

Customer	Rhätische Bahn, Switzerland
Area serviced	Landquart – Davos Landquart – Scuol/St. Moritz Chur – Disentis
Track gauge	1000 mm
Designation	ABe 4/16 3111 - 3166
Operating voltage	11 kV, 16.7 Hz
Axle arrangement	Bo'Bo'+2'2'+2'2'+2'2'
Number of vehicles	56
Commissioning	2019
Seats	
First class	35
Second class	129
Tip-up seats	18
Standing capacity	179
Floor height	
Low-floor area	450 mm
High-floor area	1053 mm
Entrance width	1200 mm
Axial thrust	800 kN
Overall length	76 432 mm
Vehicle width	2670 mm
Vehicle height	3780 mm
Bogie wheelbase	
Motor bogie	2000 mm
Trailer bogie	1800/2000 mm
Wheel diameter, new	810 mm
Driving wheel diameter, new	810/685 mm
Max. traction power	1600 kW
Max. brake power	2200 kW
Starting tractive effort	142 kN
Starting acceleration, gross	0.95 m/s ²
Maximum speed	120 km/h