

# **DOUBLE-DECK PASSENGER COACH NDW FOR SBB AND SZU**

# **Viaggio Twin**

The Viaggio Twin is used in two versions (SBB, SZU) as a double-deck passenger coach in the regional traffic of Switzerland. Operational speeds up to 160 km/h with high levels of comfort on board attract many new passengers to railway travel.

## Comfort

The coaches for SBB and SZU are especially designed for regional traffic and offer a comfortable way to get to work or are suitable for smaller day and city trips. Minimal noise emissions due to acoustic management in design and manufacturing contribute significantly to the exceptional passenger comfort. The SF100 bogies are providing highest comfort and due to the construction of the bogies for 19 t axle load, the demands made on modern double-deck cars for equipment (comfort, acoustic, fire safety, etc.) and payload can optimally be met. Innovative air conditioning through demand-oriented airflow, CO<sub>2</sub> control and energy savings provide a modern air conditioning concept and have a significantly positive impact on the passenger travel experience.

#### Accessibility

The cars for SBB and SZU were designed to provide the same travel comfort for all passengers, especially a barrier-free entrance, an automatic entrance system and a spacious entrance area contribute decisively to this. There are dedicated wheelchair spaces as well as a roomy universal toilet which is designed for easy usage and maneuverability.

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### The cars for SBB and SZU combine efficiency and comfort

- Barrier-free and automatic entrance
- Wheelchair area / seats
- PRM toilets
- 160 km/h max. operational speed
- Minimal noise emission
- Innovative air conditioning enabled through CO<sub>2</sub> control and energy savings
- Manufacturing split with local added value (Bombardier Transportation Switzerland AG)
- SBB: 98 seats and 216 max. standees;
   314 in total
- SZU: 106 seats and 222 max. standees;
   326 in total





#### **Technical data**

Track gauge	1,435 mm
Length over buffers / couplings	26,800 mm
Carshell length	26,400 mm
Car height above ToR	4,618 mm
Car width	2,780 mm
Floor height compartment above ToR	Lower deck: 475 mm Intermediate deck: 1.250 mm Upper deck: 2.535 mm
Clear width entrance	1,400 mm
Clear width passageway	Lower deck: 926 mm Upper deck: 490 mm
Entrance height above ToR	600 mm
Pivot pitch	20,000 mm
Bogie wheelbase	2,500 mm
Bogie	SF100
Brake system	2 discs per axle + Mg
Wheel diameter (new)	920 mm
Max. service speed	160 km/h
Min. curve radius (uncoupled)	150 (90) m
Tare mass, type dependant	52.3 t <sup>1)</sup> / 51.7 t <sup>2)</sup>
Total mass, type dependant	74.4 t <sup>1)</sup> / 74.3 t <sup>2)</sup>
Toilets	1
Power supply	1.000 V AC 16.7Hz
Passenger capacity	98 seats + 216 max. standees <sup>1)</sup> 106 seats + 222 max. standees <sup>2)</sup>
Equipment	Barrier-free entrance, automatic entrance system, innovative air conditioning through $CO_2$ control for energy savings, wheelchair area / seats, PRM toilets
Homologated Countries	Switzerland
Car types: 1) Typ SBB	

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