



FINK 3-car electrical rack railway train for the ZENTRALBAHN

In mid-September 2009, the Zentralbahn in Switzerland placed an order with Stadler Rail for four seven-car electrical rack and adhesion railcars as well as six three-car electrical rack and adhesion railcars. The seven-car trains will operate on the Brünig line from mid-2012. The six three-car shuttle-service trains will serve as reinforcement modules to the seven-car IR trains, which can also be operated in valleys. These are 54 metres long and contain 139 seats, of which 18 are 1st class.

The trains weigh approx. 92 tonnes and the maximum speed is 120 km/h. The shuttle-service trains can also be used in a multiple-unit configuration. The modern vehicle concept with fully air-conditioned multiple units, panoramic windows, passenger information systems and low-floor entrance areas will definitely impress rail passengers.

Stadler Bussnang AG
Ernst-Stadler-Strasse 4
CH-9565 Bussnang, Switzerland
Phone +41 (0)71 626 20 20
Fax +41 (0)71 626 20 21
stadler.bussnang@stadlerail.com

A Company of Stadler Rail Group
Ernst-Stadler-Strasse 1
CH-9565 Bussnang, Switzerland
Phone +41 (0)71 626 21 20
Fax +41 (0)71 626 21 28
stadler.rail@stadlerail.com



Technical features

- Car body with an integral aluminium construction
- Low-floor and high-floor entrance areas with folding step
- Large, double glazed windows and panoramic compartments guarantee superior brightness
- Air-conditioned passenger compartments and drivers' cabs
- Wheelchair spaces
- Vacuum toilet system in low-floor area accessible to the disabled
- Fire alarm and fire extinguishing system in the passenger compartments
- Modern passenger information system with flat screens
- Height-adjustable gear drives to compensate for wheel wear
- Powerful drive system with 2 two-motor pure adhesion bogies as well as 2 individual, pure gear drives per 3-car drive module
- Electrical sockets in 1st and 2nd class

Vehicle data

Customer	Zentralbahn (zb), Switzerland
Lines operated	Lucerne – Interlaken East Lucerne – Engelberg
Track gauge	1000 mm
Designation	ABeh 160 xyz
Axle arrangement	B0'1Az'Az1'B0'
Number of vehicles	6
Commissioning	2012 / 2013
Seats	147
Of which are tip-up seats	8
Floor height	
Low-floor	420 mm
High-floor	1100 mm
Access width	1300 mm
Longitudinal force	800 kN
Overall length	54 000 mm
Vehicle width	2650 mm
Vehicle height	4050 mm from top of rail
Service weight, unladen weight	approx. 92 t
Bogie wheelbase	
Adhesion bogie	2000 mm
Trailer/rack motor bogie	2380 mm
Wheel diameter (new)	810 mm
Wheel diameter (worn)	740 mm
Traction motor three-phase current	TMF42-38-4
Max. output	1400 kW (Adh.) 1600 kW (rack)
Starting tractive power	
Adhesion	120 kN
Rack-and-pinion section	220 kN
Maximum speed	40 km/h uphill
Rack rail	29.0 km/h (105 ‰) downhill 27.5 km/h (120 ‰) downhill
Maximum speed adhesion	120 km/h
Maximum gradient, cog wheel	120 ‰
Maximum gradient, adhesion	35 ‰

