In March 2015, STA and Trenitalia ordered seven low-floor multiple unit FLIRTs from Stadler. The trains have been specially designed for cross-border operation between Italy and Austria and are to be used on the Merano–Bolzano, Bolzano–Trento–Ala and Franzensfeste–Innichen–Lienz (Puster Valley) lines. They complement the existing fleet of 18 Stadler FLIRTs. In future, the multiple units will also be used for regional service on the line between Merano and Mals. They are designed for a speed of 160 km/h and fitted with the automatic train control system ETCS. The entire low-floor train has platform level access. The air-conditioned interiors have an open, transparent design to make travelling pleasant for passengers. A modern passenger information system provides travellers with relevant information. The trains are also fitted with WLAN.
Vehicle data

Customer
Südtiroler Transportstrukturen AG (STA) and Trenitalia, Italy

Service area
Merano – Bolzano – Innsbruck e Bolzano – San Candido (Val Pusteria)

Track gauge
1435 mm

Type designation
ETR170 Serie 2

Input voltage
15, 25 kVAC/3 kVDC

Axle arrangement
Bo’ 2’2’2’2’2’2’ Bo’

Number of vehicles
1+7

Commissioning
2016-2017

Seats
280

Tip-up seats
16

Standing room (4 persons/m²)
352

Floor height
Low-floor at entrance 570 mm

Entrance width
1300 mm

Longitudinal compressive force
1500 kN

Length across coupling
106578 mm

Vehicle width
2800 mm

Vehicle height
4150 mm

Bogie axle width
Engine bogie 2700 mm
Trailer bogie 2700 mm

Driving wheel diameter, new
860 mm

Running wheel diameter, new
750 mm

Continuous output at wheel
2000 kW

Max. output at wheel
2600 kW

Starting tractive power (up to 47 km/h)
200 kN

Starting acceleration
1.0 m/s²

Maximum speed
160 km/h

Technical features

Technology

– Lightweight aluminium carbody design according to the newest crashworthiness (EN 15227) and structural strength (EN 12663) standards
– 3 kV DC, 15 kV AC, 25 kV AC traction equipment for service on the RFI (Italy) and ÖBB (Austria) Networks
– Air suspension / air suspended motor and trailer bogies
– Car body made of extruded aluminium profiles
– Multiple-unit operation for up to 2 vehicles
– Automatic coupling

Comfort

– Bright, passenger-friendly interior with individual design options
– Complete accessibility of passenger compartment, with no steps, due to 100% low floor
– Generous multifunctional compartments in the entrance area
– 10 entrance doors per side for fast passenger embarkment and disembarkment
– 2 toilet systems for people with reduced mobility
– Modern passenger information system including Wi-Fi connection in every car
– Air conditioning in passenger compartments

Personnel

– Ergonomically and comfortable designed working environment to prevent inanition of driver
– GFRP front
– Air conditioning in driver’s cab

Reliability / Availability / Maintainability / Safety

– Redundant drive equipment consisting of 4 drive chains with water-cooled IGBT power converters
– SCMT train control system (ANSF 04/12 compliant)
– INDUSI 160R train control system (Austria compliant)
– ETCS/B12 installed to allow future transit through the new Brenner base tunnel (BBT)
– Vehicle control technology with train bus and diagnostics computer (CAN-open bus)