In November 2013, MTR Express ordered six 5-car low-floor multiple unit FLIRTs from Stadler. The FLIRT Nordic is based on the established FLIRT platform and has been developed for the special conditions in Nordic countries. It has been tested in the climate chamber at RTA Rail Tec Arsenal. The winter weather resistance is a result of the closed engine rooms, double-wall inter-carriage connections, snow shields between the bogies and car bodies, a heat recovery system, floor heating and high-quality insulation. The trains are designed for a maximum speed of up to 200 km/h. Particular focus was placed on meeting MTR Express’ high standards in terms of premium service on Intercity routes. Pneumatic suspension, premium materials, a sophisticated passenger information system and a high-performance heating, ventilation and air-conditioning (HVAC) system make travelling a pleasant experience for the passengers, even over long distances.
Technical features

Technology

- Lightweight car bodies in integral aluminium design in line with the latest standards for crashworthiness (EN 15227) and car body strength (EN 12663)
- Specific equipment design for reliable operation within a temperature range from -40°C to +40°C
- Special snow shields mounted between bogie and car body minimise moisture collection from snow
- Equipped with heat recovery system for energy saving
- Motor bogies and trailer bogies with pneumatic suspension for high travelling comfort and safety at up to a speed of 200 km/h

Comfort

- Premium ambience to match the operator's focus on the business travel sector
- High-end interior, comfortable seats and special lighting concept for pleasant long-distance journeys
- Free movement of passengers inside the train thanks to 70% low-floor area
- Electric under-floor heating system in passenger saloons and double-walled passageways between carriages
- Catering will be provided from a small cafe/bar in the centre of the train

Personnel

- Ergonomically and comfortably designed driver's cab
- Easy control of all safety-, communication-, information- and comfort-related features by train attendants
- Effortless maintaining of cleanliness, order and safety by the train staff thanks to spacious carriage design

Reliability / Availability / Maintainability / Safety

- Redundant drive equipment with six power trains with water-cooled IGBT power converters
- Installation of Swedish train control system ATPL 10000
- Vehicle control system with bus system and on-board failure diagnostics computer

Vehicle data

Customer: MTR Express
Lines operated: Gothenburg–Stockholm
Gauge: 1435 mm
Catenary voltage: 15 kV, 16.7 Hz
Axle arrangement: Bo’2’2’Bo’+2’2’Bo’
Number of vehicles: 6
Delivery: 2014/2015
Seats: 244
Floor height:
  - Low-floor: 800 mm
  - High-floor: 1180 mm
Entrance width: 1300 mm
Axial thrust: 1500 kN
Overall length: 105500 m
Vehicle width: 3200 mm
Vehicle height: 4380 mm
Bogie wheelbase:
  - Motor bogie: 2500 mm
  - Trailer bogie: 2750 mm
Driving wheel diameter: 920 mm
Carrying wheel diameter: 920 mm
Maximum output at wheel: 4500 kW
Starting tractive effort: 240 kN
Maximum speed: 200 km/h