



ELECTRIC MULTIPLE UNIT – FLIRT NORDIC EXPRESS

Norske tog AS, Norway

In March 2023, Norske tog purchased 17 eight-car FLIRT Nordic Express units (plus 66 options) with four different configurations for intercity operation in Norway. The fleet of 13 electric multiple units and 4 bi-mode multiple units with 15 kV and 25 kV dual voltage operation have a top speed of 200 km/h and have been specially adapted for the harsh Nordic climate conditions in Norway. Large snow ploughs, an efficient HVAC (heating, ventilation and air conditioning) system, including floor heating in the vestibules, special insulation as well as the placing of all equipment in a well and safe enclosed casing ensure an excellent protection against snow and ice and are part of the Nordic winter package. The trains offer all the advantages that are typical for the FLIRT: Lowest noise levels inside and outside the train, lightweight aluminium car bodies in combination with the latest converter technology reduce the energy consumption significantly. Norwegian design meets Swiss precision:

The interior is elegant and stylish and at the same time perfectly designed for long-distance travel with journey times of up to 9 hours taking all passenger needs into consideration. The FLIRT Nordic Express trains offer adjustable seats, flexible sleeping compartments, a bistro area, a family area and ample space for luggage. Passengers can choose between standard seats, comfort class seats, reclining sleeper seats or sleeping compartments with two or four beds. During the day, the sleeping compartments can be converted into private seating areas for either families or business travelers. The reclining seats can be used both during the day and at night.

The FLIRT Nordic Express trains have space for up to 542 seats and can run on electrified and non-electrified lines. The areas of use are: The Bergensbanen route from Oslo to Bergen, the Sørlandsbanen route from Oslo to Stavanger, the Nordlandsbanen route from Trondheim to Bodø (bi-mode units) and the Dovrebanen route from Oslo to Trondheim.

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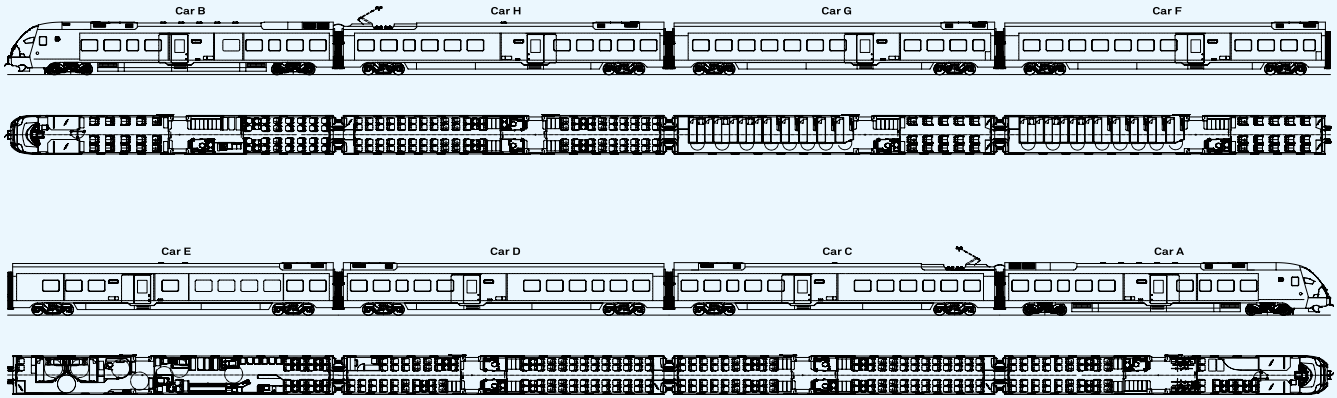
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Type A: EMU day and night configuration



Technical features, Type A

Technology

- Highly energy efficient power system designed for dual voltage 15 kV and 25 kV
- All trainsets are optimised for operation in Nordic environmental conditions and temperature range from -40°C to +35°C
- Trainset can be split into two independent operable units
- Independent shunting operation possible due to the traction battery

Comfort

- Spacious and private sleeping compartments which can be used as a business area or family compartment during the day
- Automatic wheelchair lift to ensure easy access
- Four different seating classes designed for different passenger needs
- Large bistro with galley attached and cooled display area and an additional Comfort Lounge next to Comfort Class

Personnel

- Ergonomically and comfortably designed driver's cab
- Large crew compartment with lockable door and separated from the passenger compartment
- Separate HVAC system for the driver's cab

Reliability/Availability/Maintainability/Safety

- Highly redundant traction chain with four pantographs and four power converters.
- Trainset equipped with Driver Advisory System (DAS)
- Enhanced crash worthiness designed to withstand potential collisions with large animals

Technical data, Type A

Customer	Norske tog AS
Operated networks	Norway
Gauge	1,435 mm
Designation	FLIRT Nordic Express
Supply voltage	15 kV, 16.7 Hz and 25 kV, 50 Hz
Axle arrangement	Bo'Bo'+2'2'+2'2'+2'2'+ 2'2'+2'2'+2'2'+Bo'Bo'
Number of vehicles	8 (+ 66 Options)
Delivery	2027
Seats	439
1. Recliner seating places	45
2. Comfort seating places	28
3. Regular seating places	318
4. Beds (seating places in day configuration)	48
Tip-up seats	8
Standing spaces	712 (4 p./m ²)
Floor height	1,200 mm
Entrance width	1,100 mm
Longitudinal force	1,500 kN
Length over coupling	220,000 mm
Vehicle width	3,200 mm
Vehicle height	4,362 mm
Bogie wheelbase	
Motor bogie	2,700 mm
Trailer bogie	2,500 mm
Driving wheel diameter, new	920 mm
Carrying wheel diameter, new	920 mm
Continuous power at wheel	4,000 kW
Max. power at wheel	6,400 kW
Starting tractive effort	320 kN
Starting acceleration, gross	0.62 m/s ²
Maximum speed	200 km/h