



Diesel low-floor multiple unit FLIRT

Eesti Liinirongid AS (Elron)

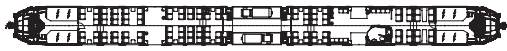
The Estonian railway operator Elron has ordered 20 diesel-electric trains of the type FLIRT (6 two-car, 8 three-car, 6 four-car trains) for the interregional traffic between the cities of Estonia. These new trains will replace the existing diesel trains whose life time expires within the next years. The diesel-electric trains for Elron are based on the FLIRT trains Sm5 for VR in Helsinki, which were developed especially for the harsh Finnish winter conditions and the broad gauge of 1520 mm. The trains will benefit from the experience of almost 300 diesel-electric trains running in 7 countries. The diesel engine and the power generator will be arranged in a power pack separated from the passenger salon, this will reduce the noise and vibration influence to the passengers. The new trains are characterized by optimised thermal insulation, large low floor areas, fulfilment of the latest requirement of crashworthiness according to EN15227 as well as an attractive interior and exterior design.

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FLIRT DMU 2-car



FLIRT DMU 3-car



FLIRT DMU 4-car



Technical features

- Bright, passenger-friendly interior with customized design
- Excellent visibility through the whole passenger area
- Low-floor section > 70%
- Passenger information system
- Spacious multipurpose area in entrance section
- Wide doors on each side for fast entry and exit of passengers
- Air-conditioned passenger and driver compartments
- Vacuum toilet system, also suitable for people with reduced mobility
- Ergonomically designed driver's desk
- Glass fiber reinforced plastic front cabin
- Automatic coupler
- Welded car body structure with extruded aluminum profiles
- Air-suspended bogies
- Redundant traction chain with water-cooled IGBT power converters
- Vehicle control system with train bus, vehicle bus and diagnostic computer
- Video surveillance and Wi-Fi Internet access
- Multiple-traction up to two trains mixed EMU and DMU



Vehicle data

	FLIRT 4-car	FLIRT 3-car	FLIRT 2-car
Customer	Eesti Liinirongid AS (Elron)		
Gauge	1520 mm	1520 mm	1520 mm
Power supply	diesel-electric	diesel-electric	diesel-electric
Axle arrangement	Bo'2'2'2'2'Bo'	Bo'2'2'2'Bo'	Bo'2'2'Bo'
Number of trains	6	8	6
Service start-up	08/2013	08/2013	02/2014
Seating capacity	214	161	105
Standing capacity (4 P/m ²)	211	154	99
Floor height			
Low floor	580 mm	580 mm	580 mm
High floor	1170 mm	1170 mm	1170 mm
Door width	1300 mm	1300 mm	1300 mm
Longitudinal strength	1500 kN	1500 kN	1500 kN
Overall length	74 320 mm	59 895 mm	45 470 mm
Vehicle width	3500 mm	3500 mm	3500 mm
Vehicle height	4500 mm	4500 mm	4500mm
Tare weight	160 t	137 t	116 t
Bogie wheelbase			
Motor bogie	2700 mm	2700 mm	2700 mm
Trailer bogie	2750 mm	2750 mm	2750 mm
Wheel diameter (new)			
Motor bogie	870 mm	870 mm	870 mm
Trailer bogie	800 mm	800 mm	800 mm
Max. power diesel engines	1340 kW	1340 kW	1340 kW
Max. power supercap	400 kW	-	-
Max. acceleration	0.85 m/s ²	0.85 m/s ²	1.05 m/s ²
Service speed	160 km/h	160 km/h	160 km/h