



DIESEL-ELECTRIC LOCOMOTIVE

KiwiRail, New Zealand

In October 2021, Stadler and KiwiRail signed a long-term framework agreement with a first call off for the supply of 57 diesel-electric locomotives for mainline services. The locomotives will operate in the South Island railway network. Stadler's high quality, fuel efficient, more powerful locomotives will allow KiwiRail to improve service reliability to get more freight off roads and onto rail. Customized to KiwiRail requirements, the narrow gauge and narrow body locomotives feature well service proven components and systems. The Co-Co locomotives are powered by a diesel engine with an output of 3,000 kW. Following Stadler's focus on providing sustainable solutions for railway transportation, the locomotives are compliant with the latest European emission standard (Stage V). This results not only in a substantial reduction of pollutant emissions, and in the consequential cost to environment and public health, but also in optimized combustion, lowering fuel consumption and greenhouse gases emissions. The two-cab locomotives also offer optimal visibility and an excellent working environment for the drivers, including ergonomic desks and on-board toilet. Two external walkways connect both cabs and provide direct access to main equipment for maintenance.

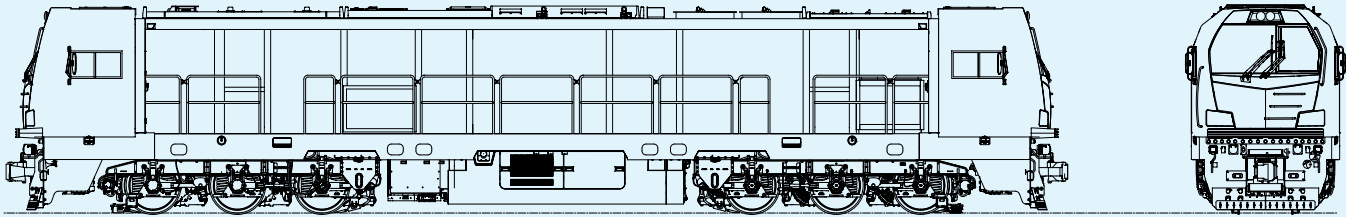
www.stadlerrail.com

Stadler Rail Group

Ernst-Stadler-Strasse 1
CH-9565 Bussnang
Phone +41 71 626 21 20
stadler.rail@stadlerrail.com

Stadler Rail Valencia S.A.

Pol. Ind. Mediterráneo. Mitjera 6
E-46550 Albuixech (Valencia)
Phone +34 96 141 50 00
stadler.valencia@stadlerrail.com



Technical features

Technology

- Applications: rail freight and passenger operations
- Based on subsystems from proven models such as the EURO4000 and the SALi locomotives
- Efficient AC traction system with IGBT, one inverter per axle
- Latest 3-axle bogie technology: high adhesion, low track forces
- High starting and continuous tractive effort
- Lightweight monocoque structure made of carbon steel, high strength steel and stainless steel
- Low-emission engine approved for 100% EN15940 compliant HVO operation
- Multiple unit operation

Comfort / Personnel

- Two driver's cabs with HVAC and right-side driving desk
- Cab designed according to safety and ergonomic criteria
- Driver safety space protection featuring corner post, collision post and front skin
- Two access doors giving direct access to the cab
- Comfortable driver and assistant seats
- Toilet module accessible from the external walkway

Reliability / Availability / Maintainability / Safety

- Decreased environmental footprint: EU Stage V compliant
- LED lighting
- Two external walkways connecting both cabs and giving direct access to main equipment for maintenance
- Designed to minimize downtimes during maintenance tasks
- Latest generation of vehicle control system including advanced remote diagnostic system and communication
- Equipped with several safety, security and cybersecurity measures
- Prepared for future ETCS installation

Vehicle data

Customer	KiwiRail
Country	New Zealand
Number of vehicles	57
Commissioning	2024
Track gauge	1 068 mm
Axle arrangement	Co-Co
Locomotive type	Diesel-electric
Diesel engine	CAT C175-16, Stage V
Diesel engine power	3 000 kW
Transmission	AC / AC
Length over coupling	20 002 mm
Carbody width	2 810 mm
Starting tractive effort	415 kN
Coupler	AAR type E automatic coupler
Maximum operational speed	100 km/h
Weight	< 108 ton
Fuel tank	6,500 litres
Brake system	Pneumatic Dynamic: rheostatic Bail-off feature
Suspension	Primary: Helical springs + guiding rods Secondary: rubber-metal pads. Vertical and lateral dampers