



## EURODUAL LOCOMOTIVE

Havelländische Eisenbahn AG (HVLE), Germany

Havelländische Eisenbahn AG (HVLE) has become the launch customer of the new generation of six-axle bi-mode locomotives developed by Stadler for the European market. The contract signed on March 2017 includes the supply of ten EURODUAL locomotives and a corresponding full service maintenance agreement. The powerful locomotives are to be used in freight transport services in Germany with a speed up to 120 km/h combining both operating modes: electric and diesel. The versatile machines can run on AC electrified lines (25 kV 50 Hz and 15 kV 16.7 Hz), rated at 6150 kW, but they are also powered by a CAT C175-16, IIIB engine rated at 2800 kW to run on non-electrified lines. EURODUAL is more than just a "last mile" locomotive. It offers two solutions in one. A vehicle at the avant-garde of technology that covers every need in an efficient and reliable way, offering rail operators numerous economic and ecological benefits

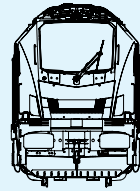
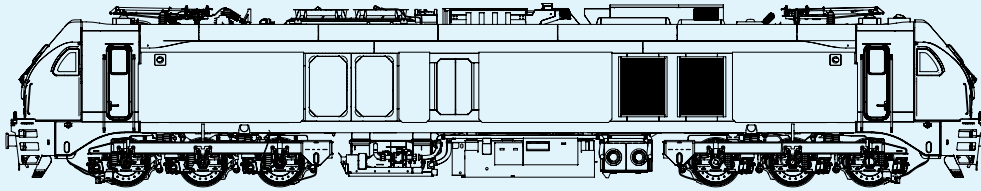
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## Technical features

### Technology

- Based on subsystems and components from proven models such as the EURO4000 and EUROLIGHT
- Application: rail freight operations
- AC traction system with IGBT. One inverter per axle
- High starting tractive and continuous tractive effort
- State-of-the-art adhesion control system
- Extremely low track forces (best non-self steering bogie)
- Monocoque structure made of carbon steel, high strength steel and oxidation-resistant steel
- Equipped with ETCS BL3 and PZB

### Personnel

- Two ergonomically designed driver's cabs with HVAC
- High cab comfort and visibility, beyond TSI requirements
- Full cab isolation

### Reliability / Availability / Maintainability / Safety

- Reduced operation costs
- EC 26/2004 Stage IIIB and TSI compliant
- Equipped with TWC, remote control and cameras
- Decreased environmental footprint

## Vehicle data

|                                    |  |
|------------------------------------|--|
| <b>Customer</b>                    | HVLE   |
| <b>Region</b>                      | Germany  |
| <b>Number of vehicles</b>          | 10   |
| <b>Commissioning</b>               | 2020   |
| <b>Locomotive type</b>             | Dual-mode:<br>Electric/Diesel-electric   |
| <b>Track gauge</b>                 | 1435 mm  |
| <b>Axle arrangement</b>            | Co'Co'   |
| <b>Electric power supply</b>       | 25 kV 50 Hz and 15 kV 16.7 Hz  |
| <b>Diesel engine</b>               | CAT C175-16, IIIB  |
| <b>Engine power</b>                | 2800 kW  |
| <b>Electric power at wheel rim</b> | 6150 kW  |
| <b>Starting tractive effort</b>    | 500 kN   |
| <b>Fuel tank</b>                   | 3500 l   |
| <b>Urea tank</b>                   | 400 l  |
| <b>Transmission</b>                | AC/AC  |
| <b>Maximum speed</b>               | 120 km/h   |
| <b>Brake system</b>                | Mechanic: Pneumatic<br>Dynamic: Regenerative/<br>rheostatic<br>2 distributors, one per bogie<br>Bail off functionality |
| <b>Suspension</b>                  | Primary: Coil springs<br>Secondary: Rubber metal<br>Vertical and horizontal dampers                                    |