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Leading Innovation >>>

Dual-Voltage (25kV AC/3kV DC) 19E : Electric Locomotives



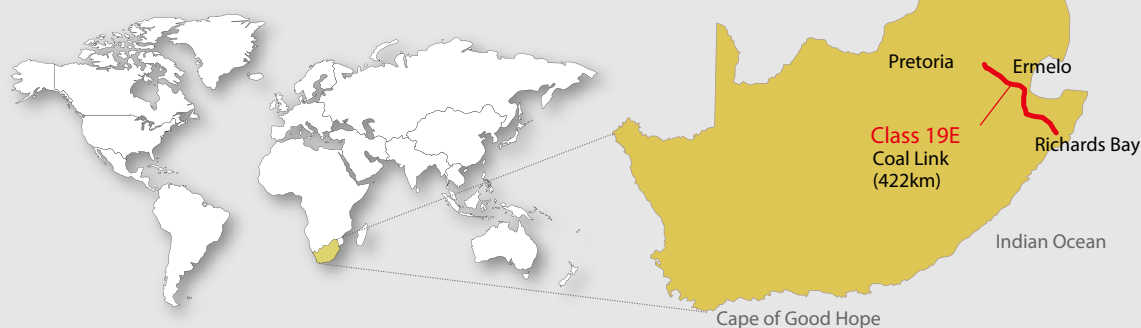
With the increase in global demand for mineral resources in recent years, even the Republic of South Africa, a leading mineral producer, has experienced an urgent need to enhance transport capacity from mines to shipping ports.

Toshiba supplies the electrical equipment for Class 19E dual-voltage(25kV AC/ 3kV DC) electric locomotives ordered by Transnet in the Republic of South Africa to haul heavy coal trains.

The Class 19E electric locomotives boast better performance due to their ability to operate on both 25kV AC and 3kV DC lines of the railway network, and are highly reliable, with redundancy of the main equipment.

The Class 19E series is also environmentally conscious, and the first electric locomotive system with regenerative braking on the AC lines.

Map of South Africa



19E : Dual-Voltage Electric Locomotives

Features

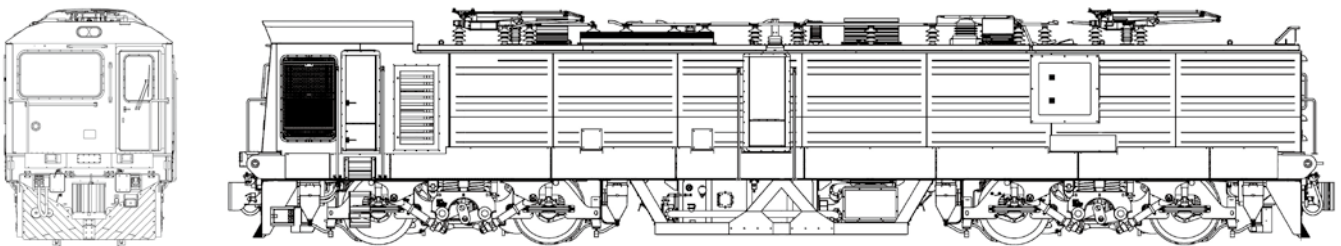
AC 25kV, 50 Hz / DC 3kV dual power
Power converter with water cooled IGBT
Train Control/Monitoring System equipped
Special functions:
•Automatic AC/DC switchover
•Automatic power control at neutral sections
•Slow-constant speed mode for loading coal
•Reduced power control for specific lines
•Safety interlock for maintenance personnel

Dimensions

Overall length	19,278 mm
Maximum width	2,890 mm
Height (pantograph lowered)	4,120 mm

Specifications

Power system	25kV-50Hz AC / 3kV DC
Axle load	25,000 kg
Gauge	1,067mm
Axle arrangement	Bo' Bo'
Total mass	100 tons (25tons×4axles)
Maximum speed	120 km/h
Output	3,000 kW
Starting tractive effort	392 kN
Maximum electric braking effort	251 kN
Ambient temperature	-10 to 45°C
Traction motors	4 × AC Motors



Class 19E Locomotive

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