



WORKING WITH YOU TO
CONNECT THE WORLD



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OVERVIEW

Our AC electric passenger locomotive is modular, standardized, lightweight and features intelligent technology and network systems. Its flexible configuration can be adapted to suit customer demand.



HIGH-SPEED AC ELECTRIC PASSENGER LOCOMOTIVE

The fastest way to travel home





MAIN FEATURES

▶ ENVIRONMENTAL ADAPTABILITY

CRRC's electric passenger locomotives can operate at ambient temperatures ranging between -40 °C and +40 °C. The trains function at altitudes up to 2500m, and a minor upgrade would enable them to run at altitudes up to 4000m. They are built to withstand climatic conditions including wind, sand, rain, snow, salty spray and dust. At present, over 1000 high-speed AC passenger locomotives are operating in China.

▶ SMART TECHNOLOGY

Our AC passenger locomotive is designed for a standard gauge (other gauges can be developed). It has an axle power of 1,200~1,400kW, and operates at speeds between 160~200km/h. The axle arrangement can be adjusted(B'0 B'0, C'0 C'0) to meet customer demand. The standardized features mean that additional high-speed locomotives can be developed rapidly.

▶ SAFETY AND RELIABILITY

All equipment and components have been fully tested and meet all necessary international safety standards. The train protection system guarantees safe operation.

▶ INCREASED COMFORT

The improved layout of our passenger locomotives provides a more comfortable operational environment for crew. Beds, microwave ovens and a refrigerator also improve working conditions.

▶ ENERGY-SAVING AND ENVIRONMENTALLY-FRIENDLY

Our locomotives are lightweight, and have a power factor of 0.98 or above. We use regenerative braking, by which kinetic energy is converted to electric energy, which is returned to the catenary.



▶ INTELLIGENT NETWORK SYSTEM

Our network system uses a dual redundancy structure, which consist of a TCN network and Ethernet. This allows real-time train control, failure diagnosis and troubleshooting. Diagnostic and operational data is transmitted to a ground server, so that the locomotive can be monitored and diagnosed remotely.

▶ LOW COST AND EASY MAINTENANCE

Our standardized and modular design facilitates quick and easy disassembly of parts. Independently developed components provide a fast and easily accessible supply of spare parts. Electronic tags facilitate easy and efficient maintenance.

Low life cycle cost (LCC): independently developed components and equipment help to reduce LCC.

KEY TECHNICAL PARAMETERS

KEY TECHNICAL PARAMETERS OF SIX-AXLE 160KM/H ELECTRIC PASSENGER LOCOMOTIVE

Current system	25kV 50Hz
Axle arrangement	C'0 C'0
Axle load	21t
Track gauge	1,435mm
Continuous rim power during traction	7,200kW
Maximum operating speed	160km/h
Starting tractive force (Half worn wheel)	420kN
Continuous speed	80km/h
Continuous tractive force	324kN



KEY TECHNICAL PARAMETERS OF EIGHT-AXLE 200KM/H ELECTRIC PASSENGER LOCOMOTIVE

Current system	25kV 50Hz	25kV 50Hz
Axle arrangement	2(B'0 B'0)	2(B'0 B'0)
Axle load	19.5 t	18 t
Track gauge	1435mm	1435mm
Continuous rim power during traction	11200kW	11200kW
Maximum operating speed	200km/h	200km/h
Starting tractive force (Half worn wheel)	480kN	480kN
Continuous speed	95 km/h	110km/h
Continuous tractive force	424kN	366.5kN



APPLICATIONS OF OUR AC ELECTRIC PASSENGER LOCOMOTIVES

1,138 six-axle 160km/h electric passenger locomotives and four eight-axle 200km/h electric passenger locomotives are currently operating in China.

