

The Siemens logo is displayed in a bold, teal, sans-serif font.

Ingenuity for life

Desiro HC RRX

Electrical Multiple Units for the Rhine-Ruhr Express

The RRX, an epoch-making project for the Rhine-Ruhr metropolitan region, will alleviate the constantly growing transportation problems in the area from 2018. This region is one of Europe's largest conurbations, with about 10 million inhabitants and many different transit routes. Along the main route between Cologne and Dortmund in particular, overburdened local public transport and train connections have substantially impeded mobility for many years now.

Thanks to the targeted expansion of the rail routes and the opportunity this offers to move traffic from the roads to rail, the RRX is expected to render unnecessary tens of thousands of car trips each working day.

The first RRX trains, with top speeds of up to 160 km/h, are expected to start running in the greater Rhine-Ruhr area from late 2018. Once the rail infrastructure has been expanded, they will ultimately be expected to run at 15-minute intervals.

The Desiro HC RRX

The RRX is designed as a four-car electrical multiple unit. The combination of single-deck tractive units and double-deck trailer cars will achieve higher passenger capacities, and arranging the major components on the roof of the end cars will facilitate maintenance and also help create more usable space inside the cars. By making full use of the vehicle gauge profile (EN15273-2, line DE2),

more space is provided for passengers in the head and shoulder areas in the upper deck. Generous entry areas with wide access doors also enable rapid and safe boarding and exiting.

Interior design

The interior construction and attractive design of the train gives it a feeling of spaciousness, with comfort and safety. Contributing to this are the comfortable lighting, and appealing, timeless color schemes.

Energy savings

A range of technical facilities help the drivers save energy.



Technical data

Wheel arrangement	Bo'Bo'+2'2'+2'2'+Bo'Bo'
Track gauge	1,435 mm
Maximum speed	160 km/h
Traction power	4,000 kW
Starting acceleration	up to 1.1 m/s ²
Power supply	15 kV AC / 16.7 Hz
Seats	400
Length of train	105,252 mm
Access height	800 mm (end car) and 730 mm (middle cars)
Width	2,820 mm
Car length	26,226 mm (end car) and 25,200 mm (middle cars)
Weight	200 t
Crash-worthiness	TSI and EN 15227-compliant
Operating temperature	-25° C to +45° C (class T3 as per EN 50125-1)

Traction system

The RRX has an efficient traction system with traction power of up to 4,000 kW. With eight driven axles, this power can be transmitted even with a low friction coefficient, thus ensuring good dynamic performance.

Vehicle communication infrastructure

The vehicle's communication infrastructure systems, Train Control Network (TCN) and Train Operator Network (TON), are Ethernet-based and form the basis for a service-oriented architecture (SOA) and communication. Our customers benefit from the Ethernet-based vehicle infrastructure in the form of state-of-the-art technology; passengers benefit from the latest high-resolution CCTV and an innovative infotainment system; and maintenance benefits from comprehensive sensor technology for predictive maintenance.

Vehicle details:

- High-quality and timeless, elegant atmosphere in the interior fittings
- 36 comfortable, adjustable seats in First Class, including reading light and fold-away table
- WiFi and sockets throughout the train
- Triple-unit traction capability
- Two standard toilets in the middle cars
- One universal toilet in a lead car
- Barrier-free access in the end-cars for passengers with wheelchairs or strollers.
- Space for up to 18 bikes
- LED lighting throughout the vehicle
- Energy-optimized air-conditioning control depending on passenger numbers
- Airsuspended motor and trailer bogies from the SF 100 and SF 500 family
- Innovative infotainment system
- High-resolution CCTV cameras
- Ethernet-based train control and train operator networks

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