



METRO TRAINS FOR MINSK METRO

Minsk Metro, Minsk

In January 2017, Minsk Metro and Stadler Minsk signed a contract for the delivery of ten trains for the city of Minsk. The contract includes the delivery of ten 4- and 5-car trains with asynchronous traction drive for Minsk Metro. The concept of metro is based on the principle of modularity, which means that trains can be arranged in groups of three to eight modules and can be operated in up to three traction units. The carbody is made of aluminium alloys. Noise absorbing materials that allow to reduce noise level in the driver's cab and the passenger compartment are used for the carbody production. New metro trains have a through passage at the position of the articulated joint along the entire compartment. Head cars have areas for persons with reduced mobility on wheelchairs. The door and window glass has anti-vandal protection against scratches and graffiti. The seats in passenger compartments are equipped with anti-vandal protection as well. New metro electric multiple units are designed to operate on all existing lines of the state enterprise Minsk Metro.

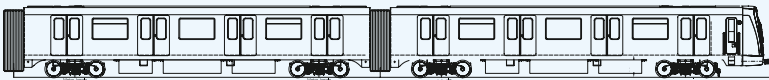
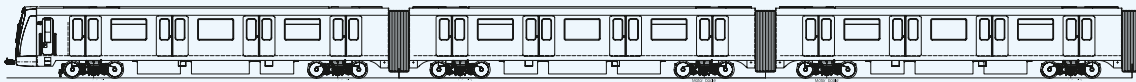
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Technical features

Technology

- Modular design of the metro cars
- Aluminium alloy car body
- Sound insulation in the driver's cab and passenger compartment due to insulating materials

Comfort

- Bright, passenger-friendly interior
- Spacious inter-carriage connection
- 8 swinging-sliding twin doors in each carriage for convenient and fast embarking and disembarking
- Modern passenger information system
- Designated spaces for wheelchairs in the end carriages
- Ventilation and air-conditioning system in the passenger compartment

Personnel

- Heating, ventilation and air-conditioning system in driver's cab
- Modern driver's cab with ergonomic control panel
- Design of the front part of the car body provides the driver with a good view over platforms and tunnels through the station mirrors and good overall visibility in both seated and standing position
- Digital video cameras are installed on the body of the end carriage to ensure good visibility for the driver along the entire length of the train

Reliability/availability/Maintainability/Safety

- The temperature range of the cars is between -40°C and +40°C, withstanding temperatures in the depot between -45°C and +45°C
- Front module of the end cars is equipped with passenger escape stairs
- Light and sound alarm system above each sliding door

Vehicle data

Customer	KTUP Minsk Metro
Area of use	Metro lines in Minsk
Number of trains	10
Start of tests	2019
Track gauge	1 520 mm
Max. allowed voltage on current collectors	975 V
Total length along the axles of the automatic couplings	78 650 mm and 97 650 mm
Train width	2 650 mm
Train height	3 690 mm
Floor height	1 150 mm
Number of doors	8 along each carriage
Entrance door width	1 400 mm
Number of seats	168 and 212 (of which 8 folded)
Number of standing places	610 and 764 (with 5 passenger/m ²)
Trolley base	2 200 mm
Max. operating speed	80 km/h (Maximum construction speed 90 km/h)
Max. acceleration in the horizontal section of the route	no less than 1.5 m/s
Max. load from the wheelsets on the tracks	no more than 15 ts