

Low-floor tramcar EVO1

Electrical equipment

Traction drive consists of two containers on the roof. Each container has its own chopper and brake inverter and provides power for 2 pieces of asynchronous traction motors. Solutions of electrical equipment provides range of the tram in the failure on one bogie. Supply of auxiliary circuits 24 V DC provides a static converter.

Control system

For the management and diagnosis of electrical equipment is used micro-processor distributed control system with communication via CAN bus.

Pantograph

Electrically controlled pantograph is equipped with a special sensor which ensures that obstruction is encountered with the help of autonomous pneumatic equipment for quick download of pantograph to its basic position and prevent from damaging.

Heating and air conditioning

Thermal comfort in winter period ensured warm-air aggregates of 6 x 3 KW, placed under the seat. The passenger lounge has an air-conditioning unit with a cooling capacity of 25 kW. The unit also allows tempering in pas-

senger lounge heating power of 10 kW and a self-burly DC / AC.

Lighting

The passenger lounge is illuminated by the bite-inflammatory LED lights.

Doors

On trams are built outside four sets of sliding plug doors that speed up exchange of passengers at the stops. The first single-wing door are 750 mm width, the other three doors are hinged with a width of 1 300 mm. At the second door is installed manually operated mechanical platform to facilitate fast boarding for passengers with limiting mobility. All doors have security protection systems against trapping passengers.

Sandblasting equipment

At the first axle on the first bogie and on left side on the third axle on the second bogie are installed heated jets of air sanders. Sand sprayers have outer and inner fulfillment.

Flange lubrication

At the first axle on the first bogie is installed equipment for wheel flange lubrication.

Couplers

On both vehicle fronts are located

bonetted folding couplers that are designed for continuous operation.

CCTV

The vehicle is equipped with an external and an internal camera system with preparation for recording. The cameras are positioned above each door, also there are 2 cameras for exterior and 4 cameras for interior projection.

Other equipment

To the vehicle is integrated visual and acoustic information system that can be configured according to customer requirements. Its components can include external and internal information panels, internal LCD monitors and digital detectors. There are also other information and diagnostic devices such as digital tachograph, counting passengers system, WI-FI, check-in tariff systems, building train routes, radio link or control and information system of transport company.

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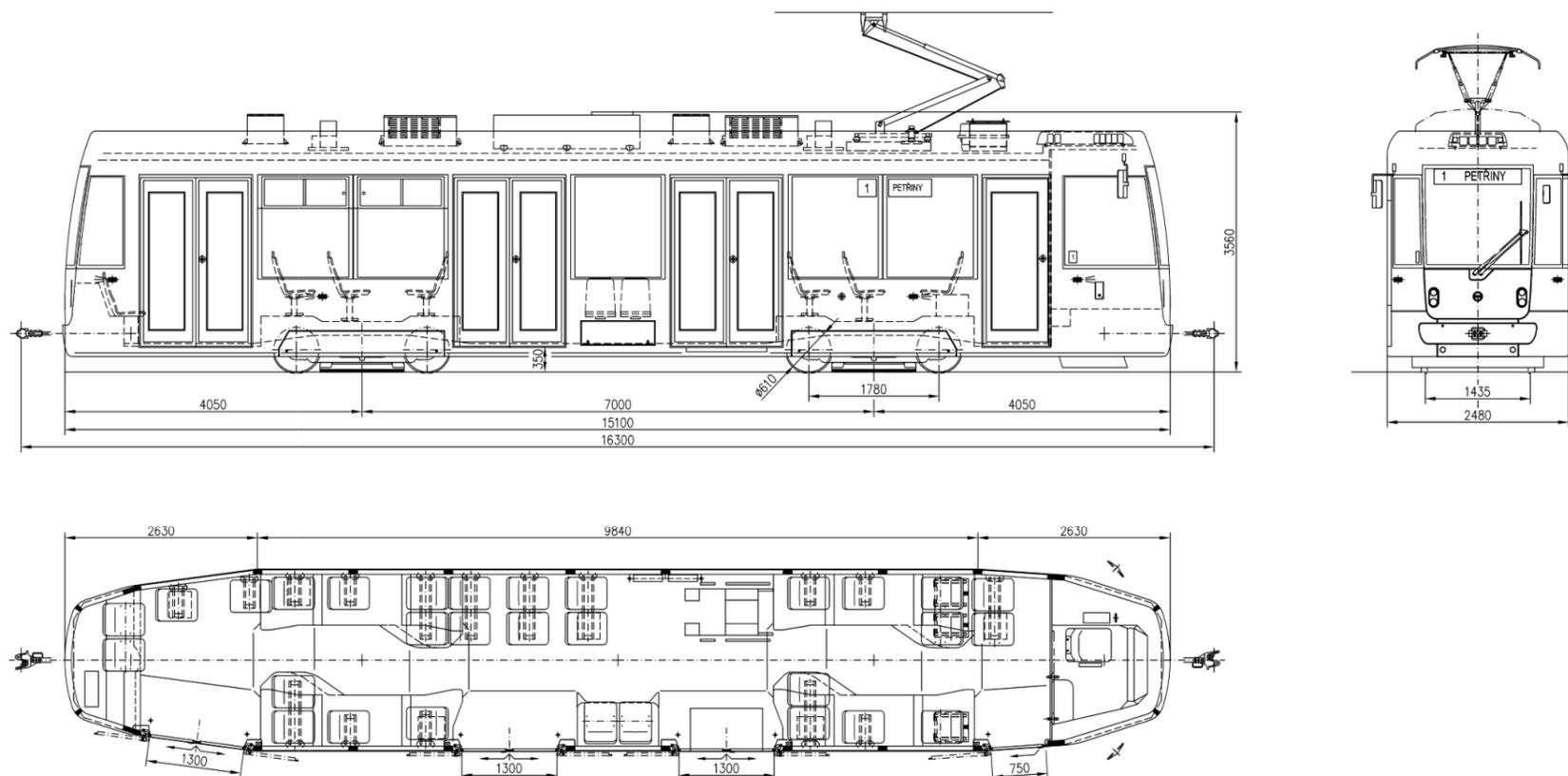
Low-floor tramcar EVO1

Four-axle, barrier-free, unidirectional tramcar with four doors, fully pivoted bogies and fixed axles, electric equipment with IGBT inverter with recuperation and air-conditioned lounge for passengers.



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Gauge	1435 mm
Bogie arrangements	Bo'- Bo'
Length of the vehicle without couplers	15 100 mm
Vehicle width	2 480 mm
Distance between pivots	7 000 mm
Floor height above the rail head	350/390/500 mm
Maximum / minimum diameter wheels	610/530 mm
Weight of empty tram	20 000 kg ± 5 %
Axle load at 5 pers. / m ²	7 000 kg
Number of seats	30 seating / 80 standing (5 pers. /m ²)
Minimum turning radius	18 m
Electric equipment	IGBT with recuperation
Installed capacity	4 x 65 kW
Maximum operated speed	70 km/h



Tram development: PRAGOIMEX a.s , VKV Praha s.r.o

Tram construction: Krnovské opravny a strojirny s.r.o., Dopravní podnik hl. m. Prahy a.s. (Prague transport operator)

Low-floor tram EVO1 is the smallest representative of the modular solutions throughout the series EVO, which symbolizes the word EVOLUTION - continuous development. EVO1 is a single-section tram with two fully-pivoted bogies (Bo'-Bo') and overall length of 15.1 m. Trams of this length categories have a great tradition of working through previous extensive production of company CKD Tatra and well covered the operational requirements of small and medium-sized cities, but thanks to coupling also proven the efficiently provide service on some lines of big cities. Trams this length categories also well respect the conditions of the infrastructure supply network, depots and workshops, the majority of small transport businesses without generating demands for large investment adjustments to these devices. Fully low-floor tram with a length of 15.1 m , with pivoted bogies, fixed axles, four doors, air-conditioned lounge for passengers, progressive electric equipment with recuperation, the possibility of creation coupled trains, brings indisputable advantages for both passengers and for transport companies.

The tramcar body

The tramcar's skeleton is welded from closed and open profiles and sheets. Outer side-wall lining is made of laminate parts which are glued to the skeleton. Fronts are also laminated. The roof is made of a sandwich laminate part. The construction of the tramcar body through the same width of modules allows for windows and

doors derivation of future performance bi-directional trams or active towing vehicle. The tram body fully complies with European standards for structural strength EN 12663 and shock resistance EN 15 227. The strength and durability of the model was assessed at the Institute of Applied Mechanics in Brno and verified in the crash test, which is unique for trams.



Driver's cabin

The site is equipped with comfortable adjustable seat, manual controller, synoptic ergonomically arranged controls and information display. The cabin has controllable heating heaters and own air-conditioning unit. Operational safety improves internal and external CCTV system

and motion sensor on the front face. The driver can operate the automatic digital passenger information systems and communicate with passengers through Intercom. In addition to the heated windscreens they are heated the glass of the front door. On the rear face is the auxiliary directional position.



Bogie

Both traction bogies are fully pivoted around a king pin of the tramcar body. They have fixed axles on which is transmitted via the gearbox, traction power induction engine mounted on the middle-suspension splinter-bar. The primary suspension

consists of rubber-metal elements, the secondary suspension is a pair of helical springs with vertical hydraulic dampers. The wheels are cushioned using vertical rubber-metal inserts. Each engine has a hydraulic brake stored energy. The bogie has two electromagnetic rail brakes.

