

Annex No. 7 to Documentation for
Technical Specification Participation No.
TSKV Zrt 15/TB-470/11
USED URBAN SOLO BUSES

The vehicles shall be used urban solo buses. They shall operate reliably and economically within the Budapest traffic conditions. They shall have no abnormal wears nor other deficiencies nor damages hindering or excluding their intended use. Supplier shall make a statement on the technical condition of the buses and their appropriateness for traffic safety. Supplier shall hand over the vehicles in a condition they can be taken for the official technical inspection.

1. Requirements

The design and technical parameters of the vehicles should satisfy the effective Hungarian and international requirements and rules. The vehicles shall be supplied with EC type certificate valid in the European Union, they shall be able to put into traffic in Hungary and shall satisfy the requirements of Decrees Nos. 5/1990 /IV.12/ KÖHÉM and 6/1990 /IV.12/ KÖHÉM and their amendments.

2. Basic technical requirements

The vehicle shall be a modern, single-decker city bus of two axles, fully low-floor in compliance with the travel demands (in 100% of the surface available for the standing passengers), also allowing the boarding and alighting of wheelchair user passengers. Moreover, the bus shall be fitted with a typically heavy-duty Diesel engine, which shall meet minimum the ECE EURO 3 environmental requirements with a passenger friendly design.

The driver's cabin of the vehicle shall be fully or 50 per cent closed, comfortable, and apt for installing audio- and visual passenger information system. The doors shall be apt for selective opening and closing and shall be equipped with protection against seizing passengers.

The required door lay-out is: 2-2-2

Dimensions, technical parameters	
Denomination	Solo single-decker city bus
Full length	Min. 11 900 mm–max. 12 500 mm
Full width	max. 2,550 m (+0/-100mm)
Full height:	max. 3. 400 mm
Maximal axle load	11. 500 kg
Allowed total mass of the vehicle	19. 000 kg
Year of manufacturing	2004 or later
Mileage performance	max. 550.000 km
Full capacity	min. 85 persons (5 persons/m ²)
Number of passenger seats	min. 25 full size passenger seats
Wheelchair docking possibility	min. 1.
Number of passenger doors	3 double leaf doors, originally built in by the manufacturer, min. width 1150 mm
Step up width	max. 340 mm
Position angle (front, rear)	min. 7,0°
Engine	Heavy duty four-stroke Diesel engine, compliant with minimum ECE EURO-III. environmental requirements.
Gearbox	Automatic, hydraulic transmission, with minimum three forward and one reverse speeds, installed intarder (retarder)
Service brake	Two-circuit brake in accordance with the provisions of UN ECE 13, equipped with ABS, ASR and a stop-brake system (which prevents starting the bus with open doors)
Kneeling mechanism	The chassis shall be suitable for kneeling down to the right.
Suspension	With air springs, rigid portal axles or independent suspension, with a road saving design in the driven axle.

Steering system	Hydraulic power steering gear, with adjustable height and inclining design
Capacity of fuel tank	It shall allow to travel 400 km per day, with single fuel fill-up, under the operating conditions of BKV Zrt. Minimum fuel tank capacity 250 liter
Body	Chassis elements and panels shall be made of materials of increased corrosion resistance.
Passenger information system	It must be suitable for the reception and installation of the electronic passenger information system in regular service aboard the BKV Zrt. vehicles. It shall be fitted with min. 3 controlled display boards on the outside.
Other requirements	
Guarantee	Supplier makes a statement on guarantee
Training of maintenance staff	Comprehensive training and handing over training documents.
Tools and softwares necessary for regular maintenance.	Supplier shall provide the tools at his disposal.
Spare parts	Supplier shall provide the spare parts at his disposal.

3. Required documents

- a) Instruction for use and maintenance
- b) Instruction for repairs
- c) List of spare parts
- d) EC type certificate
- e) Running gear alignment values
- f) Data necessary for environment protection inspection (idling and cut-off speed, smoke limit values)
- g) Alignment values, test values and operational limit parameters in order to diagnose main components and elements without disassembling them
- h) Wiring and piping diagrams (electric, air, servo, fuel, lubrication, heating and cooling systems) in a way that the operation of the system should be understood

to the smallest details, furthermore that a comprehensive repair or change of a given part could be carried out with the help of the parts catalogue and the repair manual

- i) Documents (in original or copy authorized by the issuing authority) issued by the authorities of the country of origin necessary to the authorization procedure in Hungary which certify the following things:
 - ownership of the vehicle (including the operational rights), and
 - entitlement to participate in traffic (including the permits and their expiry dates required by the transport safety and environment protection authorities of the country of origin)