



Articulated Electric Bus with In Motion Charging (IMC)

**Geneva, Switzerland**

# Vossloh Kiepe – Future meets Experience

## Project characteristics

- Articulated electric bus with In Motion Charging (IMC)
- Battery as a backup for short wireless operation
- No stand still time for battery recharging
- e-bus for intensive passengers transportation
- Unlimited range of zero-emission operation
- Lithium-Ion traction batteries for up to 7 km wireless operation
- 4-wheel-drive for stable driving characteristics
- Uninterrupted zero emission operation

The innovative battery trolleybuses of the type Exqui.City have been equipped with electrical equipment from Vossloh Kiepe. The public transport operator in Geneva, Transports Publics Genevois (TPG), has replaced its old vehicles with state-of-the-art vehicles. These innovative vehicles are exceedingly environment-friendly and economical as they can be powered both via the overhead contact line and by way of traction batteries. The Kiepe traction batteries work autonomously.

All battery components for safety, control, cooling and heating have been integrated into the system. The batteries hardly require maintenance and can be recycled entirely. The capacity of the batteries allows operation of the trolleybus for up to seven kilometers without recharging and for scheduled use up to up to 1.5 km.

Moreover, the articulated trolleybuses have been equipped with two driven axles so that they can also be operated on lines with steep inclines even with difficult weather conditions like ice, snow and rain. The first buses went in operation in December 2013.

Vossloh Kiepe provides the complete electrical traction equipment, the on-board power supply system, the traction batteries and the automatic current collector system.



The battery is located under the poles of the current collector system

Vehicle data	
Design/model	Articulated low floor Exqui.City 18T (Van Hool/Vossloh Kiepe)
Vehicle size	18,61 m length x 2.55 m width x 3.5 m height
Passenger capacity	131 (41 seats and 90 standing places)
Vehicle weight	20.34 t empty; 29 t full; 8.66 t load
Electric motor	2 x 160 kW asynchronous motors at the 2 <sup>nd</sup> and 3 <sup>rd</sup> axle (4 wheel drive)
Electric motor control	Forced air cooled IGBT inverter
Energy storage	Lithium-iron phosphate traction batteries with 26 kWh usable energy, 80 kW
Charging concept	In Motion Charging (IMC) with 30 kW
Current collector system	Automatic lowering and rising supported by funnels installed on the overhead line
On-board power supply	70 kW for heating and air condition

Subject to change without notice.

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