Banke Fully Electric

Refuse Collection Truck

Based on converted MB Econic

Euro 5/Euro 6

Pic.1. Vehicle with garbage compactor. One side of the vehicle is available for optional storage boxes (Red boxes)

WEIGHTS AND PERFORMANCE	
Gross vehicle weight	19000 or 27000 kg
Wheel arrangement	6x2-4, or 4x2
Wheelbase	3450mm, 3900mm, 4200mm, 4500mm
System weight addition	1223 kg
Front-axle weight addition	1033 kg
Rear-axle weight addition	195 kg
Maximum speed	80 km/h (set by software)
Maximum gradeability	34% @GVW
IP-grade	IP54 (Charging connector IP55, Charging during rain is allowed)
Operating conditions	-20˚C to +45˚C (above +35˚C power derating possible)

TRACTION BATTERY PACK AND CHARGING	
Basic capacity	192 kWh, shared between driveline and E-PTO
Range extender	64 kWh (Total capacity 256 kWh) or 192 kWh (Total capacity 384 kWh)
Position of batteries	Basic capacity behind the cabin, and extended capacity between the axles.
Battery technology	$LiFePO_4$
Capacity options	Prepared for an extra battery, fuel cell or other range extender.
Battery voltage	614 V DC (560…710 V DC)
Battery lifetime	More than 2500 charging cycles between 20 – 100% SOC.
Battery cell protection	Balancing by BMS on all cells.
Battery pack protection	Fully protected against overcurrent, over- and under-voltage, excessive temperature, and overcharging.
Battery charger	22 kW
Charging time AC	Basic capacity, 11 hours (22 kW AC charging)
Charging time DC*	Basic capacity 3 – 4 hours (Max 95 KW), (charging at 0,5 C)
Battery heating	2 electric 220V AC heaters and 2 electric 24V DC fans (total capacity of 800W). Managed by BMS to ensure optimal charging conditions, and by temperature management system to ensure maximum battery capacity.

*The truck can be prepared for external DC charging optional.

DRIVE SYSTEM	
Total power of traction motor	190 kW nominal, 250 kW temporary.
Transmission	Standard automatic transmission is remained
Power electronics for drive	Constant magnet propulsion motor, Inverter on IGBT transistors
Cooling system	Liquid cooling of electric drive motor and power electronics. Automatic transmission cooling system integrated with water heating system of the cabin.
Electric safety system	• Insulation control system • Marking of high-voltage devices • Button “safety stop of high voltage circuit

AUXILIARY SYSTEM COMPONENTS	
Nominal voltage	24 Volt
Power of DC/DC converter	6 kW
LV Charging	450-900/24 V DC/DC converter
Air conditioning	Optional
Air compressor	Electric, 450 l/min, Pmax 12,5 bar
Cabin heating	4 kW water flow heater plus recuperation of energy from driveline cooling system