

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	27000 kg, or 19000kg
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 (HV battery power derating possible above +35 ° C)

TRACTION BATTERY PACK AND CHARGING

Total capacity	193 kWh, shared between driveline and E-PTO
Position of batteries	Behind the cabin. Battery pack is removable with a crane
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	20 kW
Charging time AC	11-12 hours @ 20 kW AC charging
Charging time DC*	3-4 hours @ 95 kW max (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.

*DC charging is an option

DRIVE SYSTEM

Power of propulsion motor	220 kW nominal, 250 kW temporary
Transmission	Standard automatic transmission is remained
Wheelbase	3450mm, 3900mm, 4200mm, 4500mm
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	<ul style="list-style-type: none">• insulation control system• marking of high-voltage devices• button "Safety stop of high voltage circuit"

AUXILIARY SYSTEM COMPONENTS

Nominal voltage	24 V
Power of DC/DC convertor	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



Pic.2. Photo of the vehicle w/o any mounted platform