

Buffalo Universal MTB, converted

Buffalo's single-speed 100 kg-carrier bicycle, electrified with the Karaa rear-hub kit. The coaster brake goes with the wheel and a calliper brake takes its place.

250
W

rated motor

522
WH

removable battery

32
KM/H

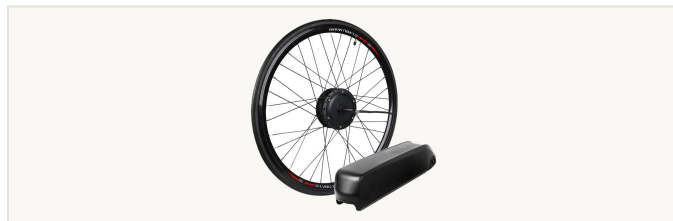
assisted speed

50-100
KM

real-world range



Buffalo Universal MTB, donor condition. Black with silver decals.



The Karaa kit: hub-motor wheel and removable 522 Wh battery.

The bicycle

Buffalo Bicycles is the for-profit arm of World Bicycle Relief. The Universal MTB is the load carrier: single speed, coaster brake, a rack rated to 100 kg.

Frame	Carbon steel, heavy-duty dropouts. One size, 19", dipping top tube.
Fork	Carbon steel, 1" threaded, internally tapered steerer
Rims	26", 36 hole, steel, ISO 559 mm
Spokes and hubs	13G high-carbon steel spokes. Steel front hub, coaster-brake rear hub.
Tyres	26 x 1.95", 1.2 mm butyl tubes, Schrader valve
Drivetrain	Single speed, no shifters or derailleurs. Cold-forged steel 44T crank, 170 mm.
Brakes	Rear coaster brake hub. Front servo drum optional.
Carrier and stand	Steel carrier rated to 100 kg. Steel centre stand.

Fitting the kit

The motor sits in the rear hub, so the rear wheel is replaced. Everything carried in that wheel goes with it.

Kept	Frame, fork, front wheel, cockpit, cranks, carrier and stand
Replaced	Rear wheel, rear hub and the coaster brake
Rear gearing	Single speed before and after. Nothing is lost on conversion.
Rear brake	The coaster brake goes with the wheel. Karaa fits a rear calliper brake in its place, as the standard build for this model.
Load	100 kg on the carrier, from Buffalo's spec sheet. Cargo is the assist mode for it.

The Karaa kit

Fitted to the rear wheel, which is rebuilt around the hub motor on stainless steel 13G spokes. The bicycle keeps its frame, fork, front wheel and cockpit.

Motor	250 W brushless DC geared hub, 36 V. Freewheels when off. Takes a screw-on freewheel and carries a disc mount, so rear gears and a rear disc brake are retained.
Power delivery	20 A continuous, 720 W at 36 V. 40 A over-current cut-off.
Battery	36 V 14.5 Ah (522 Wh) lithium-ion NMC, removable and lockable, IP54. 50 to 100 km per charge.
Controls	Pedal assist through the Karaa app over Bluetooth: climbing, eco, manual, cargo. Handlebar display shows speed, charge and assist.
Wiring and build	Waterproof 9-pin connector, battery to motor. Wheel laced on stainless steel 13G spokes.
Charger	42 V DC, 2 A. Input 110-240 V AC, 50/60 Hz. About six to seven hours.
Warranty	Motor 10,000 km or one year. Battery 500 cycles or one year. Charger: replaced only if a fault is reported within seven days of delivery.

Bicycle specification: Buffalo Bicycles front spec sheet BSS190124. Kit specification: Karaa canonical product specification and warranty policy, July 2026. Range: up to 120 km is a manufacturer maximum under ideal conditions; real-world range is 50 to 100 km depending on load, terrain, assist level, temperature and battery age. Specifications may be updated in future revisions. Deviations are recorded in the signed quotation. Pricing on request.