

Buffalo ONE and PRO, converted

Buffalo's disc-brake platform on a 100 kg carrier, electrified with the Karaa rear-hub kit. Rear gears and the rear disc both survive the conversion.

250
W

rated motor

522
WH

removable battery

32
KM/H

assisted speed

50-100
KM

real-world range



Buffalo ONE and PRO, donor condition. One platform, two drivetrains.

The bicycle

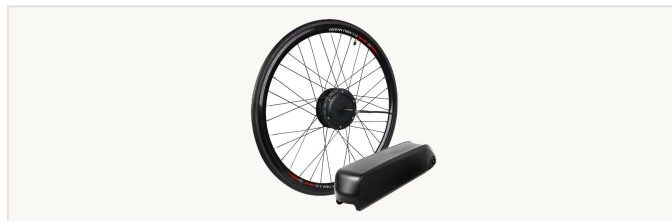
Buffalo Bicycles is the for-profit arm of World Bicycle Relief. The ONE and the PRO share one platform and differ at the drivetrain.

Sizes	Standard and Large. Published rider fit 135 to 195 cm across the two sizes.
Frame and fork	Steel, threadless headset, 170 mm cranks
Wheels	26", 36 hole, double-walled steel rims, 13G high-carbon spokes
Tyres	26 x 1.95", puncture-resistant, two-layer nylon casing, steel bead
Brakes	Mechanical disc front and rear, cable operated, replaceable 6-bolt rotors
Drivetrain	PRO: two-speed pedal-back freewheel, no cables. 19T/45T and 18T/27T, 158 per cent range.
Dropouts	Rear 135 mm OLD, front 100 mm OLD
Carrier and stand	100 kg carrier, 420 by 200 mm. Retractable locking stand.

Fitting the kit

The motor sits in the rear hub, so the rear wheel is replaced. On this platform almost nothing is lost with it.

Kept	Frame, fork, front wheel and brake, cockpit, cranks, carrier and stand
Replaced	Rear wheel and rear hub, rebuilt on a 26" rim and 13G spokes
Rear gearing	The motor takes a screw-on freewheel and Buffalo's two-speed freewheel uses a standard thread, so the PRO's two-speed pedal-back shift is retained.
Rear brake	The motor carries a disc mount, so the rear disc brake is kept. No re-specification needed.



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

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 ONE + PRO Feature Details, read 21 September 2026; the two-speed drivetrain is listed there as a PRO feature. 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.