

## Review: Volt Metro

We review the folding bike in the Volt range, the Metro. This review was pencilled in for Issue 6, but to fit in with the electric mountain bike theme of that issue we featured the Volt Alpine instead. Now, we've revisited our notes and pictures for the Metro to bring you this report...

Posted by Peter Eland on Monday 4 Nov 2013

Click to [the full Volt Alpine review here](#) and read on for the Metro!

### Volt Metro



London-based Volt Bikes produce a range of five full-size machines plus the Metro, a 20"-wheeled folding bike. All share the latest generation of the Volt electric assist system which, as we saw on the Alpine, couples a geared brushless motor in the rear wheel with what Volt say is an exclusive set of control electronics, claimed to provide smoother-than-usual waveforms to the motor, giving lower noise throughout the speed range and without any noisy resonance.

The Metro is available in either black or white from any of the 16 or so Volt dealers spread through England, Scotland, Wales and Northern Ireland: check [their website for a list](#). As we go to press prices are £1099 for the standard Metro with 36V, 10 Ah battery pack or, if you need more range, it's £1299 for a 36, 16Ah version, which was the type we tried for this review. Spare batteries cost £240 (10 Ah) or £390 (16 Ah).

There's a standard two year warranty on the whole bike including the batteries.

### ON THE BIKE

The Metro's aluminium frame is powdercoated white, and while I think it's fair to say that the bike's shape is more functional than aesthetic, it all looks smart with the black components against the clean white frame. The extra little loop where the main boom meets the seattube makes for a handy carrying handle, too.

A main hinge in the centre of the frame provides the folding action, along with a folding stem. Both are solidly made: there's a safety catch on the main hinge, while the stem uses a screw lock system which never loosened in the time we used it. The stem is also telescopic, allowing you to adjust the handlebar height easily.

As far as components go, the Metro seems equipped with a good mid-range selection. Suspension is provided at both ends, with a suspension fork and a telescopic suspension seatpost below the saddle. The gears are an eight-speed derailleur set-up, with a trigger-style shifter for your right hand - so you push a lever to go down gears, or another smaller one to go up, all without having to let go of the bars. There's a mechanical disk brake at the front and a V-brake for the rear, with decent alloy levers from Tektro with a good feel and also incorporating cut-out contacts to kill the motor when you brake. The left-hand lever also very neatly incorporates a small bell.

Also visible above are the connectors which allow every electrical component to be easily switched out if need be for repair. Pull any of them apart and you'll see they're colour coded, reducing any chance of assembly errors.







At the heart of the electrical system is the handlebar-mounted controller, which is programmable for a wide range of parameters by Volt and their dealers. It also provides a clear view of the usual ride data, and the large buttons let you switch easily between the five power assist levels (one of which is 'off'). A thumb throttle is provided for your left hand.

With both battery pack and motor at the back, the bike's weight is biased towards the rear of the bike. The motor is a Bafang brushless geared type, so it can be expected to have a low buzz in action, but also to be reliable and strong. The battery nestles neatly over the control box behind the seat-tube, with the longer 16 Ah version on our bike rising the full height of the frame. There's a convenient carry handle built into the pack, and the usual charge status display - just poke the power button and the LEDs will light up.

The control electronics are fitted neatly into the compartment below the battery:



Note also the handy side stand. The Metro is impressively fully equipped: it also has a tidy rear carrier rack. In contrast to many small-wheeled bikes, the Metro's somewhat longer wheelbase (because of the need to fit the battery pack) means there's room between this rack and your heels for a pannier each side: handy for shopping. The bike also comes with mudguards front and rear, and bright LED lights powered by the main battery pack. It's also good to see reflective sidewalls on the tyres - they'll reflect the light of the headlights of any cars approaching you from the side.

A maximum rider weight of 100 kg is quoted, or 125 kg for rider plus luggage. The bike itself is said to weigh 18.5 kg plus the battery, so 21.6 kg with the 10 Ah pack or 22.9 kg with the 16 Ah model. That's relatively light for an electric bike.



## THE FOLD

Folding is straightforward, and the order of operations isn't critical. Just open the main hinge and swing the two halves of the bike together. Then undo the stem and fold it down, and drop the seat. There are also folding pedals to make the package a tad smaller.

The little metal loop on the frame protects the chainrings when you sit the folded bike down, and it does stand up pretty well. My only criticism is that the folded package doesn't hold together particularly well - it's inclined to flop open as you try to pick it up (as you might to pop it in a car boot, for example). This is easily cured with a simple strap if it bothers you.

## ON THE ROAD

So how does it ride?

As is typical for 20"-wheeled folders, there are similarities and differences to full size bikes. The ride isn't that different really: it feels stable and controlled on the road, and anyone will be able to just hop on and go. The low frame is also easy to step over for the less agile. Where you may notice a difference is in the rigidity, especially of the handlebars: that long stem inevitably lets them flex a bit more if you heave on them. But this is an electric bike, and no heaving should be required. In normal use you just rest your hands on the bars and steer, and for this the Metro's rigidity is just fine. It also bumps well enough over potholes, with the front suspension and setpost taking some of the shock out.

The electric assist will, assuming you've selected a non-zero power level, kick in automatically after around half a pedal stroke whenever you're pedalling forwards. It'll then (at the higher levels at least) whisk you up to around 15.5 mph before fading out. It all worked smoothly and well, the motor giving a powerful but not too abrupt push, with a low buzz. At any time you get also get full power via the thumb throttle, and this was great for pulling away from stationary.

The Metro was impressive on the hills, too - it would pull strongly and it took quite a gradient for the speed to drop to the extent that the motor would struggle. A little pedal assist to keep the speed up is all that's needed even on the steepest. The brakes were good too - the front disk stopped well, and should do so even in the wet.

The gearing is just about high enough: in top gear it's not hard to pedal fast enough to make a useful contribution at or just above the electric cut-out speed of 15.5 mph. I'd have liked slightly higher gearing perhaps, but it's a matter of preference. I do like to be able to pedal usefully even when the power assist is doing most of the work, if only to keep warm in winter!

Finally a big hooray for the solidly mounted ergonomic grips on the handlebars. I really do rate this sort of grip over the hard round variety - it supports your wrists much better, reducing fatigue and aches on longish rides. A really nice touch, which adds comfort and control.

## CONCLUSIONS

The Metro put in a good performance, and the general impression is of a good quality machine with a strong electric assist system which works well. It's relatively light as electric bikes go, despite the huge battery capacity, and the folding action, while not resulting in an astonishingly small or tidy package, works as advertised. It's using a well proven design for the fold, but it's implemented it well.

The same goes for the electric assist system, with a straightforward rotation sensor control plus throttle over-ride, but it's again implemented well with the informative display, cut-outs on the brakes and connectors between the parts for maintenance.

Volt also have a good reputation for backing up their bikes, and the comprehensive two year warranty also inspires confidence. This all adds up to the Metro looking like a strong option if you're looking for a decent electric folding bike with the emphasis on good working quality rather than absolute lowest price.

**Peter Eland**

## AVAILABLE FROM:

Volt Bikes and their dealers: see [www.voltbikes.co.uk](http://www.voltbikes.co.uk)

Review bike provided by Electric Bike Store: Tel 020 7378 4728 or see [www.electric-bike-store.co.uk](http://www.electric-bike-store.co.uk)