

## Velo Vision Sample Article



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If you have any problems or suggestions about the magazine in general, or this PDF in particular, please email me at

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I hope you enjoy the read!

*Peter Eland.*

Peter Eland  
Editor and Publisher, *Velo Vision*

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Velo Vision is published by Velo Vision Ltd.  
Subscription details, news and updates can be found on [www.velovision.com](http://www.velovision.com)

ISSN 1475-4312

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Magazines Ltd

VELO VISION AND VELO-VISION  
We weren't first with the name.  
Velo-Vision is a bike shop in Körten,  
near Bergisch-Gladbach, Germany.  
Velo Vision magazine exists in friendly  
harmony with Velo-Vision in Germany.

Velo Vision is printed on paper  
produced from sustainable forests  
to Nordic Swan standards.



**COVER:** Paul Pritchard in the Himalayas: read the full story starting on page 8. Photo: Sharyn Jones

**OPPOSITE:** Light at the end of the tunnel? A weekend away with folding bikes took your editor and friends to the Monsal Trail in Derbyshire, UK. It's a disused railway line with a series of restored tunnels linking spectacular views.

Photo: Peter Eland

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### Seize the day

The story of the Himalayan adventurers which graces our cover is a reminder that for any of us, even the young, healthy and active cycling types (I'm sure there are a few among us!) life can change in an instant. It's also a reminder that even when the worst has happened, good things and amazing achievements can still follow. And that cycling, with or without adaptations to match your circumstances, almost always has the potential to provide the

freedom of exhilarating, independent mobility.

This issue is full, again, of people enjoying just that freedom – be it racing HPVs, riding end-to-end gigging by bike, or zipping round Europe by Strida, camcorder in hand. Many thanks to all of our contributors, and long may your wheels keep on turning!

**Peter Eland**



# HASE KLIMAX 2K

Is this a whole new concept in eco-mobility? We ride the Hase Klimax, a unique vehicle which may just be more than the sum of its parts.

## BACKGROUND

Hase Bikes in Germany have for many years produced a range of specialist bikes, among them the Pino tandem (reviewed in VV 33) and the Kettwiesel recumbent trike, which we reviewed in VV 25 following its change to an aluminium frame. Hase have grown over the years and now employ 40-odd people, making them one of the largest companies in the specialist cycle sector. They even have their own fatigue testing labs on site, and dealers worldwide including several across the UK.

The Klimax 2K was introduced in 2010, and swiftly won a series of design awards. It was followed

a year later by the Klimax 5K, with a more powerful electric motor to suit the '45 km/h class' of electric bike, legal in Germany but not in the UK. Both trikes are based on the Kettwiesel chassis.

Any UK Hase dealer can obtain the Klimax, though they are unlikely to stock it – indeed, only Kinetics have any details of it online. The UK recommended retail price is £4945. Ours was supplied with the additional 'Poncho' (an extra £150). Spare battery packs cost an impressive £610. The fairing is also available separately (£726) to fit most existing Kettwiesel and Lepus trikes, Pino tandems, and the Trix child trailer.

Our 2K test bike was shipped from Germany to JD Tandems in Gargrave, our nearest dealer, and we picked it up from there ready assembled. With the fairing removed and the boom retracted it just fitted into a large car; it can go smaller with a bit of dismantling.

The name Klimax has at least three layers of meaning, the first being obvious I would think. *Klima* is also German shorthand for air conditioning, reflecting the way you can add or remove weather protection. At the same time it's the word for climate, in line with Hase's hope that the Klimax will offer an attractive low-carbon alternative to car travel.

## FIRST IMPRESSIONS

"It's the Batman bike!" Perhaps the best heckle I've ever had on a recumbent, and so true! The fairing does have something of a bat's wing about it, and as you lift one side over your head as you get in or out, it's profiled against the sky.

The overall look of the complete vehicle is smart too, though I'm not quite sure it made me feel like a superhero. The swooping lines of the fairing, and the bag tucked neatly behind the rider, add up to a compact, purposeful vehicle which looks good on the road. Somehow it's less 'odd' and has more street credibility and presence than an unfaired recumbent – perhaps because it's that bit more car-like. In any case, it's never short of attention wherever you go, which may or may not be welcome.

The Klimax was delivered 'bare', with the fairing and poncho both tucked away into the large bag which hangs behind the seat – this is beautifully put together by Ortlieb in heavy waterproof fabric, and really feels solid. In this form the Klimax looks remarkably like a Kettwiesel trike: there's only the mounting hardware for the fairing to indicate otherwise, and the electric motor of course.

The idea is that if the weather is favourable you can simply ride it like this, with no fairing to obstruct your view, or to get in the way as you get on or off. Then, if rain threatens, you can unzip that rear bag and attach the fairing in seconds. This keeps most of the weather off your body and legs, and will be fine for showers. For heavier rain you can add the poncho, which attaches on to the rear edge of the fairing and covers your body, with a hole for your head. As your head remains outside, a cap or the like will keep the rain out of your eyes or off your glasses.

The whole thing is open from below, although apparently a fabric splashguard can be attached to provide extra protection from tyre splashes. This wasn't provided with our test bike, but even riding fairly fast through puddles didn't get anyone wet from below.

We'll look at the fairing and electrical systems in more detail in



a moment, but the trike itself also has much to examine. For Klimax purposes the standard Kettwiesel has enjoyed a number of upgrades. Both rear wheels are driven via a differential (more basic Kettwiesels are one wheel drive) and this in turn is driven via a 9-speed Shimano Tiagra derailleur transmission, controlled via SRAM twist-grip shifters. Also included is the system which lets you easily adjust the boom to suit rider leg length without having to add or remove chain links. The boom travel is impressive, around 45 cm (18"), which should fit a very wide range of riders.

The relatively lightly loaded front wheel is unbraked, but each rear wheel has an Avid Elixir 3 hydraulic disk brake.

There's a good quality B&M LED lighting system fitted, powered by a side-runner dynamo on one of the rear wheels, presumably because the motor in the front wheel prevents the use of a hub dynamo. I'm fairly sure it's German traffic regulations which stop Hase using the main electric assist battery for the lights.

Also included on the standard Klimax is a curved bag just beside the right-hand mudguard – it's small with just 2.3 litres capacity, but very handy for the charger and/or the contents of your pockets: losing things from trouser pockets is an occupational hazard on any recumbent.

Overall weight is quoted at 29.5 kg. It didn't fit into our usual weighing set-up for us to check, but that sounds about right.

**FAIRING AND PONCHO**

The fairing arrived tucked neatly away in its bag, which dangles just below the seat back. It's only attached at the top, so it swings down annoyingly and gets in the way when you try to park the trike upright on its end. A minor niggle.

Unzip the top and the fairing extracts easily, though it's quite a tight fit. Attaching it is the work of seconds: with the fabric still folded you plug the 'stalk' into the socket on the trike's headset until the spring-loaded ball clicks into place. Then, standing astride the trike, you can unfold the 'spars' and spread the fairing, and as you sit down you bring each of the side pieces with you. These then slot over the brass bosses on the rear wheel mudguards, snapping positively into place. That's it – the fairing's automatically tensioned and in place.

To get in or out, you simply release one of these side catches and lift that side of the fairing up, get in, and re-attach it.

It wasn't quite that quick for me the first time, probably because the trike had been set up for someone with different leg length. There are a host of clever adjustments to ensure that the fairing is properly positioned and tensioned: I won't detail the process here as it's very well described in the manual – or you could leave it to your dealer.

Achieving this easy action without excess weight has clearly required plenty of engineering, and Hase have done a spectacular job here. The joints of the fairing structure use rugged plastic blocks which seem well able to withstand repeated folding and unfolding, and the whole thing is really well constructed. It also gives plenty of knee clearance. Riders can adjust where the top edge of the wind deflector falls, too, to ensure a good view.

The Poncho adds on behind the fairing, hooking onto the pole ends near the rear wheels, and using neat 'popper' fittings to attach inside the top edge. A zipped opening is provided for your head, and the idea is that once fitted, you can quickly enter and exit by lifting the whole thing off along with one side of the fairing. I found it a bit awkward



**TOP LEFT:** The differential transfers your power to both rear wheels.

**ABOVE LEFT:** The boom adjusts through a wide range, with a system to keep chain tension correct automatically.



**TOP RIGHT:** A sidewall dynamo powers the lighting system.

**ABOVE RIGHT:** There's a neat and useful bag by your side: perfect for ride essentials or the contents of your pockets!



to attach, especially while getting liberally rained on. But no doubt practice would make perfect.

One thing to watch is that in windy weather, the trike blows away really easily when the fairing's in place – the Velcro strap parking brake is essential!

## ELECTRIC ASSIST

The Klimax's electric assist system comprises three main parts: a Protanium 180W hub motor in the front wheel, a 10Ah, 26V (260 Wh) lithium ion battery pack tucked in a metal frame under the left hand side of the frame, and a small control console on the left hand handlebar.

The assist system is of the 'rotation sensor' type, meaning that the motor cuts in automatically after half a turn or so of the pedals, at the power level you set on the console. As long as you keep pedalling (whether you put in any effort or not) it'll attempt to accelerate you to 25 km/h (15 mph) and then, assuming you've set the power level high enough to reach that speed, it'll fade out to ensure it complies with the EU (and UK) electric bike regulations. Basically, these mean that the Klimax is treated as an unassisted cycle in law.

The handlebar console provides basic controls: on/off, a button to toggle between the three levels of power assist, and a five-LED battery charge status display. The 'walk' button starts the motor even if you're not pedalling, but the assist only pushes gently up to 6 km/h (4 mph) – it's designed to help you push the bike while walking uphill. But it's almost impossible to press this button without sitting in the trike, and with a rider in place the power is barely sufficient to move you, though it could help a weak rider start off. I gave it little use.

The 2.7 kg battery pack will give a range, say Hase, of around 47 km (29 miles) at the 'medium' setting. Such figures are inevitably a rough estimate, but that seems reasonable. With a heavy rider and hills, expect considerably less; with plenty of pedalling you can get much more. At 260 Wh, it has to be said that the battery capacity isn't that large by today's standards, especially considering the price.



**ABOVE:** The battery is housed in a metal frame down near the left rear wheel. With the weight so low there's little effect on the handling.

It is also a little disappointing that Hase only provide a six month battery warranty. I generally recommend nowadays that electric bike buyers look for two year warranties, because replacement battery packs can be a considerable expense (£610 in this case!), and future availability is always a concern. Hase do say that the battery should last for 500-700 charge cycles – two years' daily use. Why then such a short warranty?

I was further surprised that it isn't possible to charge the battery on the bike. Instead, you have to remove the battery: this can be done with the trike on its wheels, but it's much easier if you tip it up on end. Then,



**ABOVE:** Access to the battery is easier if you tip the trike up. Note the captive key (in the battery lock/switch) on its steel tether.

use the captive key to unlock the pack before sliding it out. Having the key held to the bike on a cord does, incidentally, rather defeat the object of locking the battery pack in place. It's done like that presumably because the key needs to be in the pack to turn it on for use, and to be fair the key is well hidden from a casual observer. But anyway, why isn't there a cutout in the mounting frame to access the charging socket on the battery without removing it?

In use, the assist pulls you along well, although on steeper slopes it does bog down if you don't help it keep the speed up by pedalling. It's always hard to judge these things,

but it didn't seem to have quite as much 'grunt' as some systems I've used – perhaps that's the 180W motor, rather smaller than the maximum 250W which the rules allow. I did also get the front wheel to slip a few times on steeper slopes; front panniers might help.

It's fairly quiet in use, not completely silent, but inaudible over any sort of traffic noise. Accelerating from a standstill it's helpful, although the pause before it kicks in (the pedal sensor takes half a revolution or so to 'pick up') is irritating – that's just when you need it the most. As with most electric assist, it is especially welcome on longer hills or headwinds, where it just takes away the worst of the effort, while letting you keep up your average speed.

Unfortunately on our trike there was an odd glitch whereby the assist would kick in unexpectedly for an instant while I was wheeling the trike or pedalling backwards – alarming if not dangerous. Probably an issue only on our well used demo machine, though.

Overall, in the context of a trike costing the best part of £5000, I was a little underwhelmed by this assist system. Even if it added a bit to the price I think a more powerful 250W system (with a larger capacity battery and a longer warranty) would be worth the extra. Also, while 'rotation sensor' power assist will suit many riders (you don't have to put in any effort unless you want to) it would also be good to have the option at least of a system with torque-sensing control, which matches your efforts (so you have to put effort into pedalling, just like 'normal' cycling), assists from the instant you press on the pedals and works through the gears to handle even the steepest of hills.

## THE RIDE

Like its 'bare' forerunner, the Kettwiesel, the Klimax is a very nimble machine. That front wheel can pivot through a wide angle, turning the vehicle almost on the spot. With the rider sitting down between those rear wheels, it's also very stable. The Big Apple tyres and mesh seat also make it a comfortable ride, soaking up the bumps. Your

hands are also relaxed, falling easily onto the bars.

With (even excellent) brakes on the rear wheels alone, stopping distance is longer than on front braked trikes, though it's probably still better than most bikes out there. I didn't find the extra (low down) weight of the electric assist and fairing (in its bag, initially) burdensome even with the power assist off.

With the fairing installed, you immediately notice the lack of exposure to the wind; on a bitterly cold day it can be quite a relief to climb back in and be sheltered. As you ride the response of the fairing adds another dimension to the experience – it flaps very little, but sways a very little in sidewinds and as you go over bumps. With a tailwind it billows out a touch, and gives you a noticeable 'sail' effect. In all weathers, peering just over the long 'bonnet' of the fairing takes a little getting used to: you need to note and avoid potholes etc. well in advance before they disappear behind the fabric.

With your head and hands out of the fairing you still very much know you're in the weather, but that's probably a good thing: you don't want too great a difference between in and out, or you'd need different clothing between the two.

Deploying the fairing in the rain (no snow available!) showed its worth. Without the poncho I still used a waterproof top but didn't bother with overtrousers, and this was absolutely fine. Legs and feet stay completely dry, and only a fairly minimal amount hits your torso as you ride. Stopped, more rain hits you as it's not being deflected by the airflow.

Adding the poncho cuts out most of the rest, and I was happy riding in moderate rain in just a fleece. I'd imagine a suit would be equally possible. Most of the water shakes off to the sides, with very little making it through the zip – you can close this right up to your neck from inside. It's worth practising a bit with the poncho: indicating by sticking an arm out involves moving your arm quite a way back first. But no real problem.

Living with the Klimax did point up a few practical issues. When pushing the bike around or just parking it,



the steering loved to flop right round to one side – perhaps a steering stabiliser spring would be an idea. Also, I found it very tricky to lift or carry the machine with the fairing up, so in wet weather this ruled out a number of my possible routes to work where steps or barriers were involved. Similarly, you really do need a garage or large shed to store it in; it stands neatly on its end but still takes a bit of space to wheel in and lift up.

You also need to ensure the fairing is dry before it's packed away to avoid mildew, just like a tent.

Luggage carrying capacity was modest as supplied; there's no extra room in the fairing bag if the fairing is in it. You can hang a single pannier on behind the fairing bag, though – or Hase's 50 litre Ortlieb bag, though this'll make it rather harder to get at the fairing. Front panniers are also possible.

The Klimax 2K didn't seem a particularly fast machine, despite the possible aerodynamic benefit of the fairing. But I don't think speed is the objective (although the electric assist does help keep the average up). It's more about utility and comfort, and in these areas it delivers.

### CONCLUSIONS

The Klimax defies categorisation and easy verdicts. Whether, as a transport concept, it really 'works' for you will depend very much on your riding environment, personal preferences and, not least, budget.



For me, in my UK urban conditions, it didn't really hit the spot. Oddly, the main reason was nothing to do with the trike itself – it was more that I didn't dare leave it parked unattended around town, ruling it out for most of my journeys. And perhaps it just seemed like overkill: for shorter urban trips the comfort of a recumbent is less relevant, and the anonymity of an upright is welcome. Besides, it doesn't rain so much here in York that occasionally wearing waterproofs is a problem.

But I can easily imagine other circumstances when it would be just the ticket as a car replacement. Plenty of bike-friendly places in mainland Europe spring to mind. It could also work well in rural areas, perhaps for people going car-free who have longer distances to cover,

and all weathers to cope with – and who have stopping places where casual vandalism is less likely. Or on tour, when getting wet can be more than an inconvenience, it could be a welcome shelter as well as a vehicle.

If the whole is hard to judge, the parts are easier. The folding fairing is a design *tour de force*, and works well to keep the worst of the weather off you. The poncho is clever too, once you get the hang of fitting it.

The excellent Kettwiesel chassis with differential transmission was, I would say, a little let down by a relatively unsophisticated electric assist system. The faster, more powerful Klimax 5K model, legal in Germany (subject to various restrictions) but not in the UK, might be a more rewarding ride in these respects.

At a UK retail price of £4945, the Klimax 2K is a significant investment in anyone's book, and this price pits it against a whole slew of transport competitors: from rail season tickets to small cars and motorbikes to hard-shell velomobiles. It certainly carves out its own niche: it provides essentially fossil fuel free independent mobility, a good degree of easily removed weather protection while being significantly easier to get in and out of, and lighter than, most velomobiles, while thanks to the electric assist, it provides mobility with only limited (but still fitness enhancing) physical effort.

Hase have won many awards with the Klimax, and deservedly so. It's a serious, innovative vehicle which in the right environment offers a unique set of capabilities. You may have to travel to seek one out for a test ride – the UK dealers don't usually keep them in stock – but if the Klimax concept fits your needs, it might well be worth it.

**Peter Eland**

### AVAILABILITY

Manufacturer: Hase Bikes, Germany. Tel +49 23 09 93770 or see [www.hasebikes.com](http://www.hasebikes.com)

Hase have many dealers in the UK and beyond – see their website for details. Our test trike was kindly supplied by JD Tandems, Gargrave. Tel 01756 748400 or see [www.tandems.co.uk](http://www.tandems.co.uk)

