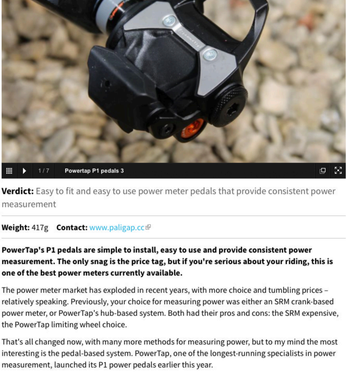
Power measurement

PowerTap P1 pedals £999.00

★★★★☆ by David Arthur @davearthur November 19 2015



Verdict: Easy to fit and easy to use power meter pedals that provide consistent power measurement

Weight: 417g **Contact:** www.paligap.cc

PowerTap's P1 pedals are simple to install, easy to use and provide consistent power measurement. The only snag is the price tag, but if you're serious about your riding, this is one of the best power meters currently available.

The power meter market has exploded in recent years, with more choice and tumbling prices – relatively speaking. Previously, your choice for measuring power was either an SRM crank-based power meter, or PowerTap's hub-based system. Both had their pros and cons: the SRM expensive, the PowerTap limiting wheel choice.

That's all changed now, with many more methods for measuring power, but to my mind the most interesting is the pedal-based system. PowerTap, one of the longest-running specialists in power measurement, launched its P1 power pedals earlier this year.

Installation and use

Installation couldn't be any simpler really. You fit them just like normal pedals, using an 8mm Allen key. There are no pedal flats. No special tools or torque wrenches required. Just line up the threads, tighten them up, pair with a compatible device and you are good to ride.

I've had no problems switching the pedals between different bikes. I've done it many dozens of times and it's no more trouble than a regular set of pedals. This makes them ideal if you have both a race bike and a training bike, for example.

PowerTap supplies its own cleats, which use a regular three-bolt drilling, and the pedals are compatible with Look Keo-style cleats. This isn't something I've tried, but I know people who have, with no issues.

Out on the road, the pedals work very well. In terms of engagement, disengagement and stability, they're great, with a generous amount of float. PowerTap has ensured the pedals can stand up to plenty of abuse, and says it has tested them to extremes, from under water to high weight loads, and it's confident they can cope with whatever the most demanding cyclist can throw their way. To increase longevity, the metal plate on top of the pedal is replaceable.

They do attract some rather unfair criticism for their appearance. They're certainly not as elegant as my usual Speedplays, but when you're cycling, you can't see them anyway, so what does it matter?

They might look on the chunky side, but I didn't experience any issues with the pedals contacting the road, even during my best efforts to bank the bike over through some tight corners.

The pedal body owes its bulky appearance to the critical electronics packaged inside it rather than as a separate pod, as with other systems, along with the AAA battery inside each pedal. PowerTap claims 60 hours of battery life and that has proved about right during my testing. Changing a battery is a doddle, too. The pedals aren't particularly light when compared with a standard pedal, and they're heavier than Garmin's Vector 2s (417g versus 356g.)

The pedals use ANT+ and Bluetooth Smart to communicate to a compatible computer head unit, such as PowerTap's own Joule GPS or a suitable Garmin Edge computer. I had good results using both computers with the pedals, with no problems with pairing throughout the test period.

With Bluetooth the Joule GPS computer can be paired with the company's dedicated app (available for free download) on a compatible smartphone, and provides a really easy way to analyse your activity without going near a computer or having to search the house for a USB cable. Once your activity is in the app, there is a wealth of data to scrutinise, and you can share it to most of the popular training websites, like Strava.

The pedals are calibrated at PowerTap's US manufacturing facility. One small thing you have to do before every ride is calibrate the pedals, resetting the zero offset to ensure maximum accuracy. On a Garmin this is easy because when you wake the pedals, with a couple of rotations of the cranks, the computer prompts you to calibrate. You need to do this with no load on the pedals, so I made it part of my ride preparation drill and it's not a problem at all.

All about the data

So, the big question is, do they work? They certainly do. I've been riding the P1 pedals for a couple of months now; I've raced them and ridden them in the heat and in the cold, in the rain and even in the mud. Throughout this testing, the power data has been consistent at all times, with no odd readings or random spikes.

It's tricky to test power meters against a benchmark because what do you use as a benchmark? PowerTap claims that the pedals are accurate to within 1-1.5% of its hub meters. So I did just that, and rode with the pedals alongside a Powertap wheel to see how they compared. The result? The readings from both were extremely close, with both power meters tracking similarly through the peaks and troughs of a typical ride.

Importantly, the power data has been consistent from ride to ride, and from week to week. I've been using them on all my regular training loops, and comparing data on these same routes from different days, and the consistency is plain to see.

A temperature sensor allows the pedals to compensate for temperatures changes, and I've used them in the heat of Spain and Italy and the cold of Belgium and England, with no discernible impact on the power measurement. That's the most important thing with a power meter: reliable power data so you can see the improvements you're making in training.

As well as the advantages of easy installation and free crank and wheel choice that a power pedal offers, there's the power measurement that is available with two separate devices. At the moment, the PowerTap software doesn't fully exploit this in the same way that Garmin's Power Phase and Cleat Offset does. Obviously you can do left and right leg analysis and see if there are any discrepancies between your legs, and at first it's fascinating to see how your two legs operate, but the novelty soon wanes.

Being able to identify and analyse the pedal stroke in detail, to see where you're applying the most power and to use that data to improve the efficiency of your pedalling, is one of the most appealing potential features of a power meter pedal. But you don't currently get this level of analysis with the PowerTap pedals, which gives the Garmins the upper hand. Perhaps PowerTap will narrow this gap soon, because the hardware is certainly capable.

Conclusion

PowerTap has clearly brought its vast expertise in power measurement to a product that is easy to use and reliable, with consistent power measurement. Battery life is good, as is durability, and syncing with a compatible computer is a doddle. Some of the more complex training tools have yet to be exploited, but it's only a matter of time, hopefully.

For most people wanting a reliable power meter, the PowerTap P1 pedals are worth considering. They're cheaper than the Garmin Vector 2 pedals, but power-data-hungry cyclists will miss the extra level of analysis offered by the Garmins.

The P1 pedals are manufactured in PowerTap's facility in Wisconsin, USA, and come with a two-year warranty.

Verdict

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