Headline: Aero for all

Do you love to chase your local KOMs or simply enjoy the feeling of speed as you ride? Thanks to our new aero-optimized aluminum wheels, these experiences are at your reach.

One common goal: reach new top speeds on two different terrains. On the one hand, the new entry-level wheels of our Aero category will help you sprint to victory on flat-out rides. On the other hand, the new aero-optimized rim of our entry-level Endurance wheelsets provides increased stability and decreases drag to let you go further.

 Ultimately, these new wheelsets are united by the common goal of providing the benefits of aero optimization to all cyclists.

Aero wheels now available to all

For those looking to go flat out, our new entry-level Aero wheels are the ultimate match. Featuring a specially designed aluminum rim with hidden nipples, these new wheels mark the democratization and expansion of our Aero line with the new AR 1600 SPLINE and A 1800 SPLINE.

Meanwhile, our new Endurance wheels are invaluable for riders looking to sharpen their skills on long, scenic rides. With advanced aerodynamics for greater crosswind stability and control, these wheels will make the ride to your destination a little smoother and more enjoyable.

Aluminum vs Carbon

Some of our latest innovations clearly demonstrate that we take the pursuit of speed very seriously. But what was possible with the meticulous development of our high-end carbon wheels had to be approached differently with aluminum.

You might be wondering why 30 mm rim height, and not higher? Taking the constraints that aluminum rim manufacturing imposes, 30 mm is our interpretation of the ultimate height that provides an optimal weight-to-aero ratio, and a low steering moment.

Combined with carefully selected components, it results in our fastest aluminum wheels.

Two new rims

The signature AERO+ concept behind our high-end aero carbon wheels was applied to the development of both new rims, minimizing their drag while optimizing their handling; but the different playgrounds and riding characteristics led to different dimensions. While the rim height is the same at 30 mm in both cases, the internal width differs, 20 mm to fit more aerodynamic tires in 25 to 28 mm width on the A 510, and 22 mm for wider road tires in 28 to even 32 mm width on the E 550. The increased inner width of the Endurance rim is justified by the extra comfort appreciated on longer rides that larger tires provide when correspondingly inflated at lower pressure.

Aero optimized spokes

Riding fast feels a bit easier thanks to the new spoke upgrade. 1600 models are now laced with the DT Aero comp II straightpull spokes, while 1800 models are laced with the DT Aero comp wide straightpull spokes. The aero optimization of spokes is provided thanks to their flat forging process.

But this is all for nothing without the combination of the hidden force… Indeed, the spoke tension is an essential factor to ensure the quality and durability of a wheel. Done well, it will give the rider precise steering and the ability to accelerate efficiently. This is something all our wheels assembled by hand can guarantee.

Learn more about spoke technology and how they are produced at DT Swiss.

Hidden nipples

The use of hidden nipples further enhances the benefits of Aero spokes and highlights one of the key differences between the two new aero-optimized wheels. The entry-level Aero wheels are assembled with them, just like their high-end carbon counterparts. Hidden nipples are very light and hidden inside the rim, thus reducing air drag around the rim, and serving the purpose of Aero wheels perfectly.

Learn more about the different nipples technology.

Ratchet system upgrade

Proper acceleration is necessary to reach top speed. In the case of the new aero-optimized aluminum wheels, this is provided by the hub at the heart of the wheels. And both the 350 and the 370 hub levels have been upgraded.

The 350 hub of the 1600 line is supporting you on the quest for speed thanks to a responsive acceleration provided by the fast engagement of its upgrade to the Ratchet System 36 SL.

And the 370 of the 1800 line will reward you at the end of every sprint with its signature freewheeling sound, thanks to its upgrade to the Ratchet LN. Thanks to the simultaneous engagement of each tooth, you will enjoy increased reliability while pushing hard on those accelerations.

Wind tunnel results

The competitive edge

Our new aero-optimized aluminum wheels have been meticulously developed based on CFD simulations provided by our aero expert Swiss Side. Wind tunnel tests confirmed our competitive edge over similar wheels by other wheel brands. With the lowest drag measured among these tests, it is clear that both of our new wheels are the best aero optimized wheels tested, with the AR 1600 SPLINE 30 having the lowest weighted aero drag of 15.2 W.

All results measured with Continental GP 5000 S TR 25c at 45 kph.

Our fastest aluminum rim

Tested with the same hubs and spokes against the other rims of our portfolio with similar characteristics, the results clearly showed that the new A 510 rim is our most aerodynamic aluminum rim with the lowest drag measurement. It is the ideal choice if you are planning to customize and aerodynamically optimize your road bike.

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| Rim (rim height) | Weighted drag @45 kph | Variation |
| A 510 (30 mm) | 15.9 W | 0 |
| RR 521 (32 mm) | 16.4 W  | + 0.5 W |
| RR 470 (23 mm) | 17.6 W  | + 1.7 W  |

Aero & Endurance

Both wheelsets are built around an aero-optimized rim. However, their different intended use results in a difference in aero performance. ER 1600 SPLINE 30 are designed for longer rides on rough roads. Their inner rim width is therefore wider to ideally support 28c tires. It provides greater comfort when inflated at lower pressure, but slightly increases drag. AR 1600 SPLINE 30, on the other hand, have a thinner inner rim width, which ideally supports 25c tires, suitable for smooth roads. They offer the lowest drag.

Experienced hand building

Every wheel from DT Swiss is built by hand. In itself, the concept of building by hand is not alone a guarantee to build a stable, durable wheel. Knowledge and, above all, experience are required to build a high-quality wheelset.