

**DT SWISS** ENGINEERING PERFORMANCE

# AERO FOR ALL

**EMBARGO**  
SEPTEMBER 20, 2023  
3 PM CEST

DT SWISS  
AERODYNAMICS BY  
SMSSIDE  
ER 1600

30 30

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AERODYNAMICS BY  
SMSSIDE  
ER 1600

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**AR 1600 SPLINE® 30**



**A 1800 SPLINE® 30**



**ER 1600 SPLINE® 30**



**E 1800 SPLINE® 30**



**A 510**



**E 550**

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# EXECUTIVE SUMMARY



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# AERO FOR ALL OF US

Do you love to chase your local KOMs or simply enjoy the feeling of speed as you ride? With our new aero-optimized aluminum wheels, these experiences have never been more accessible.

For those looking to go flat out, our new entry-level aero wheels are the ultimate match. Featuring a specially designed 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.

The 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.

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





# AERO FOR ALL COMPONENTS

## **TWO NEW RIMS**

The signature AERO+ concept was applied to the development of both new rims. The different playgrounds and riding characteristics led to different dimensions.

## **AERO SPOKES**

Riding fast feels a bit easier thanks to the new spoke updates.

## **HIDDEN NIPPLES**

Enhancing the advantage of aero spokes, the entry level wheels of the aero category include hidden nipples.

## **RATCHET SYSTEM UPGRADE**

No top speed can be achieved without a proper acceleration. And the upgraded Ratchet Systems ensures just that.



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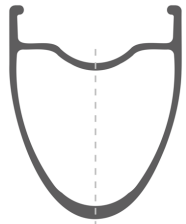
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# AERO COMPONENTS



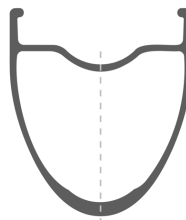
## NEW AERO RIM SHAPE

The signature AERO+ concept that is 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.



### **AERO A 510**

The aerodynamically optimized shape effectively reduces drag and allows you to hold higher speeds with ease. The lightweight aluminum profile supports you as you accelerate to those crucial speeds where aerodynamic drag becomes your toughest opponent. Take control of your road cycling experience and maximize your performance with the A 510.



### **ENDURANCE E 550**

Want to make the challenge of a long, extended ride more accessible? Upgrade your bike with the aero-optimized E 550 rim. This ultimate long distance rim gives you the stability and comfort to ride further with confidence. The 22 mm inner rim is optimized for 28 mm wide tires, giving you comfort and lower rolling resistance when inflated at lower pressures.



## AERO SPOKES

Riding fast feels a bit easier thanks to the new spoke upgrade. The 1600 models are now laced with the DT aero comp II Straightpull spokes, while the 1800 models are laced with the DT aero comp wide Straightpull spokes. Both spokes are aerodynamically optimized thanks to the flat forging process used in their manufacturing.

But this is all for nothing if not combined with the hidden force... Indeed, the spoke tension is an essential factor to ensure the quality and durability of a wheel. Done well, it will provide the rider with a precise steering and the ability to accelerate efficiently. It can be guaranteed by the hand assembly of all of our wheels.

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## HIDDEN NIPPLES

Further enhancing the benefits of aero spokes, and marking one of the key differences between the four new aero-optimized wheels, is the use of hidden nipples. 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, reducing air drag around the rim, and serving the purpose of aero wheels perfectly.





## UPGRADED HUBS RATCHET AND RATCHET LN

No top speed can be achieved without a proper acceleration. In the case of the new aero-optimized aluminum wheels, this is provided by the hub at the heart of the wheels. And both hub levels, the 350 and the 370 have been upgraded.

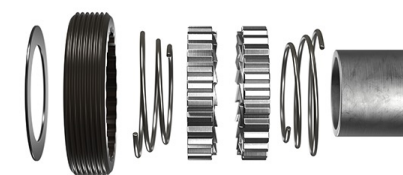
The 1600 line, is supporting you on the quest for speed thanks to a responsive acceleration provided by the fast engagement of its upgrade to the Ratchet System 36 SL.

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. The simultaneous engagement of each tooth, will let you count on its reliability while pushing hard on those accelerations.

### **RATCHET**



### **RATCHET LN**



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**WIND TUNNEL**  
DATA

# COMPETITIVE EDGE

Our new aero aluminum wheels have been meticulously developed based on CFD simulations provided by our aero expert Swiss Side. We received confirmation of our competitive edge by wind tunnel tests\* against similar wheels from 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.

The 3 wheels were tested under the same conditions in one test session.



- HUNT 34 Aero Wide Disc SL
- Mavic Ksyrium 30 Disc
- DT Swiss AR 1600 SPLINE® 30

*Wheels measured with Continental GP 5000 STR 25C at 45 km/h*



# 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.

| <b>RIM (RIM HEIGHT)</b> | <b>WEIGHTED DRAG AT 45 KM/H</b> | <b>VARIATION</b> |
|-------------------------|---------------------------------|------------------|
| 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          |



— DT Swiss AR 1600 SPLINE® 30  
— DT Swiss ER 1600 SPLINE® 30

*Wheels measured with  
 Continental GP 5000 STR  
 28C (ER) / 25C (AR)  
 at 45 km/h*

# AERO AND ENDURANCE

Both wheelsets are built around an aero-optimized rim. However, their different intended use results in a difference in aero performance.

The 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 more comfort when inflated at lower pressure, but slightly increases drag\*.

The AR 1600 SPLINE 30, on the other hand, are less wide (20 mm inner rim width), which ideally supports 25c tires, suitable for smooth roads and providing the lowest drag.

The 2 wheels were tested under the same conditions in one test session.

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# PRODUCTS SPECIFICATIONS

# **AERO** **FLAT OUT FAST**

Aerodynamics describe the interaction of an object with its surrounding medium: air. For us, aero means minimal drag in all conditions, allowing you to go faster than ever. Without any compromises in handling, stiffness and braking performance, creating the most efficient and complete system.



# AR 1600 SPLINE® 30

|                             |   |
|-----------------------------|---|
| <b>FRONT WHEEL</b>          | 12 / 100 mm   |
| <b>REAR WHEEL</b>           | 12 / 142 mm   |
| <b>HUB</b>                  | 350 Straightpull with 36T Ratchet SL System                     |
| <b>BRAKE INTERFACE</b>      | Disc, Center Lock   |
| <b>FREEHUB BODY OPTIONS</b> | Shimano Road, SRAM XDR  |
| <b>RIM</b>                  | Aluminum, sleeved rim joint, hooked bead, tubeless ready        |
| <b>RIM DIMENSION</b>        | 584 x 20 mm<br>622 x 20 mm                                      |
| <b>RIM HEIGHT</b>           | 30 mm   |
| <b>SPOKE FRONT</b>          | DT aero comp®    straightpull, black                            |
| <b>SPOKE REAR</b>           | DT aero comp®    straightpull, black                            |
| <b>NIPPLES</b>              | DT ProLock hidden aluminum                                      |
| <b>LACING</b>               | 24 x 2-cross  |
| <b>WEIGHT FRONT / REAR</b>  | From: 808 g / 895 g   |
| <b>MAX SYSTEMWEIGHT</b>     | 110 kg  |
| <b>ASTM CLASS</b>           | 1   |
| <b>ACCESSORIES INCLUDED</b> | DT Swiss tubeless ready tape (mounted), DT Swiss tubeless valve |
| <b>PRICE</b>                | From 599 € / 757 \$ / 569 £                                     |



# A 1800 SPLINE® 30

|                             |   |
|-----------------------------|---|
| <b>FRONT WHEEL</b>          | 12 / 100 mm   |
| <b>REAR WHEEL</b>           | 12 / 142 mm   |
| <b>HUB</b>                  | 370 Straightpull with 18T Ratchet LN System                     |
| <b>BRAKE INTERFACE</b>      | Disc, Center Lock   |
| <b>FREEHUB BODY OPTIONS</b> | Shimano Road, SRAM XDR,   |
| <b>RIM</b>                  | Aluminum, sleeved rim joint, hooked bead, tubeless ready        |
| <b>RIM DIMENSION</b>        | 584 x 20 mm<br>622 x 20 mm                                      |
| <b>RIM HEIGHT</b>           | 30 mm   |
| <b>SPOKE FRONT</b>          | DT aero comp® wide straightpull; black                          |
| <b>SPOKE REAR</b>           | DT aero comp® wide straightpull; black                          |
| <b>NIPPLES</b>              | DT ProLock hidden aluminum                                      |
| <b>LACING</b>               | 24 x 2-cross  |
| <b>WEIGHT FRONT / REAR</b>  | From: 830 g / 936 g   |
| <b>MAX SYSTEMWEIGHT</b>     | 110 kg  |
| <b>ASTM CLASS</b>           | 1   |
| <b>ACCESSORIES INCLUDED</b> | DT Swiss tubeless ready tape (mounted), DT Swiss tubeless valve |
| <b>PRICE</b>                | From 429 € / 542 \$ / 409 £                                     |



# A 510

|                             |   |
|-----------------------------|---|
| <b>RIM DIAMETER</b>         | 29" / 700C                                  |
| <b>MATERIAL</b>             | Aluminum                                    |
| <b>RIM JOINT</b>            | Sleeve                                      |
| <b>TIRE INTERACE</b>        | Hooked / Crotchet tubeless TC               |
| <b>INNER WIDTH</b>          | 20 mm                                       |
| <b>HEIGHT</b>               | 30 mm                                       |
| <b>HOLES</b>                | 24, 28, 32                                  |
| <b>WEIGHT</b>               | From 535 g                                  |
| <b>MAX SYSTEMWEIGHT</b>     | 110 kg                                      |
| <b>ASTM CLASSIFICATION</b>  | 1   |
| <b>ACCESSORIES INCLUDED</b> | DT ProLock hidden aluminum (Set of 34 pcs.) |
| <b>PRICE</b>                | From 44,90 € / 67,90 \$ / 49,99 £           |



# ENDURANCE LONG DAYS OUT

Endurance means to pursue a goal, no matter what might happen on the way. The new DT Swiss Endurance line is designed with this goal in mind. It unites top notch performance with comfort and reliability. Now bring on the cracks in the tarmac, rain and headwind situations.





# ER 1600 SPLINE® 30

|                             |  |
|-----------------------------|--|
| <b>FRONT WHEEL</b>          | 12 / 100 mm  |
| <b>REAR WHEEL</b>           | 12 / 142 mm  |
| <b>HUB</b>                  | 350 Straightpull with 36T Ratchet SL System                                  |
| <b>BRAKE INTERFACE</b>      | Disc, Center Lock  |
| <b>FREEHUB BODY OPTIONS</b> | Shimano Road, SRAM XDR   |
| <b>RIM</b>                  | Aluminum, sleeved rim joint, hooked bead, tubeless ready                     |
| <b>RIM DIMENSION</b>        | 584 x 20 mm<br>622 x 20 mm   |
| <b>RIM HEIGHT</b>           | 30 mm  |
| <b>SPOKE FRONT</b>          | DT aero comp®    straightpull, black   |
| <b>SPOKE REAR</b>           | DT aero comp®    straightpull, black   |
| <b>NIPPLES</b>              | DT ProLock Squorx ProHead alu  |
| <b>LACING</b>               | 24 x 2-cross   |
| <b>WEIGHT FRONT / REAR</b>  | From: 858 g / 945 g  |
| <b>MAX SYSTEMWEIGHT</b>     | 130 kg   |
| <b>ASTM CLASS</b>           | 2  |
| <b>ACCESSORIES INCLUDED</b> | DT Swiss tubeless ready tape (mounted), DT Swiss tubeless valve, valve guard |
| <b>PRICE</b>                | From 599 € / 757 \$ / 569 £  |



# E 1800 SPLINE® 30

|                             |  |
|-----------------------------|--|
| <b>FRONT WHEEL</b>          | 12 / 100 mm  |
| <b>REAR WHEEL</b>           | 12 / 142 mm  |
| <b>HUB</b>                  | 370 Straightpull with 18T Ratchet LN System                                  |
| <b>BRAKE INTERFACE</b>      | Disc, Center Lock  |
| <b>FREEHUB BODY OPTIONS</b> | Shimano Road, SRAM XDR   |
| <b>RIM</b>                  | Aluminum, sleeved rim joint, hooked bead, tubeless ready                     |
| <b>RIM DIMENSION</b>        | 584 x 24mm<br>622 x 24 mm  |
| <b>RIM HEIGHT</b>           | 30 mm  |
| <b>SPOKE FRONT</b>          | DT aero comp® wide straightpull, black                                       |
| <b>SPOKE REAR</b>           | DT aero comp® wide straightpull, black                                       |
| <b>NIPPLES</b>              | DT ProLock Squorx ProHead alu  |
| <b>LACING</b>               | 24 x 2-cross   |
| <b>WEIGHT FRONT / REAR</b>  | From: 865 g / 972 g  |
| <b>MAX SYSTEMWEIGHT</b>     | 130 kg   |
| <b>ASTM CLASS</b>           | 2  |
| <b>ACCESSORIES INCLUDED</b> | DT Swiss tubeless ready tape (mounted), DT Swiss tubeless valve, valve guard |
| <b>PRICE</b>                | From 429 € / 542 \$ / 409 £  |



# E 550

|                      |  |
|----------------------|--|
| RIM DIAMETER         | 29" / 700C   |
| MATERIAL             | Aluminum   |
| RIM JOINT            | Sleeve   |
| TIRE INTERACE        | Hooked / Crotchet tubeless TC                              |
| INNER WIDTH          | 22 mm  |
| HEIGHT               | 30 mm  |
| HOLES                | 24, 28, 32   |
| WEIGHT               | From 565 g   |
| MAX SYSTEMWEIGHT     | 130 kg   |
| ASTM CLASSIFICATION  | 2  |
| ACCESSORIES INCLUDED | PHR washer, DT ProLock Squorx ProHead alu (Set of 34 pcs.) |
| PRICE                | From 44,90 € / 67,90 \$ / 49,99 £                          |



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# TECHNOLOGIES

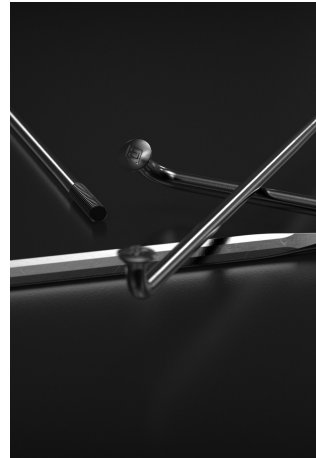
# TECHNOLOGIES



**AERO+**  
TECHNOLOGY  
[More information →](#)



**RATCHET**  
TECHNOLOGIES  
[More information →](#)



**SPOKE**  
TECHNOLOGY  
[More information →](#)



**NIPPLE**  
TECHNOLOGY  
[More information →](#)



**HAND-BUILT**  
TECHNOLOGY  
[More information →](#)



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***DT SWISS*** *ENGINEERING PERFORMANCE*