

DT SWISS ENGINEERING PERFORMANCE

THE NEW ERC REDEFINED STABILITY

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1

**EXECUTIVE
SUMMARY**

P. 4

2

**REDEFINED
STABILITY**

P. 9

3

**PRODUCT
DEVELOPMENT
AND FEATURES**

P. 15

4

**RESULTS AND
ANALYSIS OF
TESTS**

P. 33

5

**PRODUCT
SPECIFICATIONS**

P. 40

6

APPENDIX

P. 48

7

**LAUNCH
DETAILS**

P. 54



ERC 1100 DICUT® 35

ERC 1100 DICUT® 45

ERC 1400 DICUT® 35

ERC 1400 DICUT® 45

1

EXECUTIVE SUMMARY



DT SWISS

ABSTRACT

Fast and stable, the ERC wheels are part of the Endurance-specific, aero road wheel lineup of DT Swiss, blending aerodynamics and wheel handling stability in a balanced way. The category was first introduced in 2016 to reflect the demand for an ambitious yet more versatile style of road cycling: combining endurance riding with comfort and exploration.

The new rim shape and wheel have been redeveloped in collaboration with Swiss Side. As part of the enhanced aerodynamics, particular attention was paid to a further lowered, evenly changing steering moment under crosswind condition.

At its introduction, the first-generation ERC set the benchmark for an aerodynamic wheel with a high degree of handling stability. The second-generation now has been further improved on these parameters, hence **REDEFINED STABILITY.**



FEATURES OF THE NEW ERC

REDESIGNED RIM SHAPE

Combining further increased crosswind stability with improved aerodynamic drag, the redevelopment of the ERC rim shape is based on continued collaboration with Swiss Side and the experience of DT Swiss in wheel engineering.

INCREASED RIM INNER WIDTH

A broadened rim inner width of 22 mm profits the rider particularly on longer rides with decreased rolling resistance, more cushioning, grip and reduced sidewise flexing of the wider tires.

AERO OPTIMIZED SPOKES

Featuring the latest generation of aerodynamically optimized spokes, the T-heads ensure permanent optimal alignment in the wheel for reduced rotational and translational drag.

OPTIMIZED WEIGHT-AERO PERFORMANCE RATIO

Based on their weight in relation to their aerodynamic performance, the new ERC wheels provide good weight-to-aero performance, supporting the cyclist to cope with a variety of riding situations and terrains.

HUB WITH PATENTED RATCHET EXP TECHNOLOGY

For the first time, the ERC lineup features the latest generation Aero DICUT hubs with patented Ratchet EXP technology, providing fast and reliable engagement.

OVERVIEW

ENDURANCE LINEUP

WHEEL LEVELS AND RIM HEIGHTS

The wheels are available in two different levels (1100 and 1400) and two different rim heights of 45 and 35 mm, respectively.

ERC 1100 DICUT incorporates a sleek 180 hub with Ratchet EXP technology and low friction SINC ceramic bearings, as well as the latest generation of DT aero comp II and DT aero lite II spokes.

ERC 1400 DICUT offers the same aerodynamic rim profiles but distinguishes itself from the 1100 level by the spoke and hub specification. It features a 240 hub with Ratchet EXP technology and first-generation DT aero comp spokes.

	NEW	NEW	EXISTING	EXISTING	EXISTING
	ERC 1100 DICUT®	ERC 1400 DICUT®	ER 1400 DICUT®	ER 1600 SPLINE®	E 1800 SPLINE®
RIM	Carbon	Carbon	Aluminum Welded	Aluminum Sleeved (23 mm) Welded (32 mm)	Aluminum Sleeved (23 mm) Welded (32 mm)
RIM HEIGHT	35 mm 45 mm	35 mm 45 mm	21 mm	23 mm 32 mm	23 mm 32 mm
HUB	180 DICUT®	240 DICUT®	240 DICUT®	350 SPLINE®	370 SPLINE®
SPOKES	DT aerolite® II DT aero comp® II	DT aero comp®	DT aerolite® DT aero comp®	DT aero comp® wide DT new aero®	DT aero comp® wide DT new aero®

2

REDEFINED STABILITY

DT SWISS

BEYOND AERODYNAMICS

When aiming to engineer a truly excellent aero road wheel, it is necessary to understand the wheel as part of an extended rider-bike system and pursue a more comprehensive approach to wheel optimization accordingly; an approach that incorporates yet goes beyond aerodynamic optimization parameters of rotational and translational drag. All efforts to achieve an aerodynamic position on the bike are in vain if the handling of the wheel feels unstable or unpredictable to the rider.

The second-generation ERC has been redeveloped accordingly: Fast and stable, the endurance-specific wheel supports the rider with further improved handling stability on shorter rides and particularly on #longdaysout.



STABILITY

Stability means having the bike under control no matter the riding situation or prevailing wind conditions.

On flats being overtaken by a truck, while cornering or descending at full speed: when hit by crosswinds or gusts of winds, good handling properties of a wheel provide increased predictability and ultimately control to the cyclist.

The longer the trip, the more important these riding dynamics become. Beyond aspects of safety, the heightened confidence arising from the predictable handling provides peace of mind to the cyclist, elevating his or her performance potential and ultimately enjoyment of the ride.

Accordingly, from 2016 onwards, DT Swiss with its AERO+ concept helped to pioneer a more comprehensive approach to road wheel development: one that acknowledges and incorporates this «extended» quality criteria.



DT SWISS

REDEFINED STABILITY

Based on the principles defined in the AERO+ concept and the experience gained during the development of recent carbon aero wheels, the new ERC wheel has been redeveloped with one single objective in mind: to further improve handling stability and predictability under various crosswind conditions while at the same time reducing the aerodynamic drag of the wheelset.

Combining these two contradictory factors of speed and stability in an optimized way, the wheel is the cumulation of a meticulous multi-year product development and testing process undertaken in cooperation with Swiss Side.

REDEFINED STABILITY

The result is the new ERC generation which redefines the new optimum of what we believe constitutes a fast and stable, endurance-specific road wheel.



THREE PROVEN PILARS

AERO+
CONCEPT

1

COOPERATION
WITH SWISS SIDE

2

EXPERTISE IN RIM
DEVELOPMENT

3

THE REDEVELOPMENT OF THE NEW ERC WHEEL IS BASED ON

- 1 The AERO+ CONCEPT by DT Swiss, a more comprehensive approach to aero road wheel development and optimization.
- 2 The continued cooperation with SWISS SIDE, leading experts in aerodynamic wheel optimization with more than 20 years of experience in the Formula 1 and cycling industries.
- 3 Expertise of DT SWISS in wheel development and testing, gained from the first generation of ERC and other aerodynamically optimized wheels, like the ARC lineup.

THE AERO+ CONCEPT

Beyond classic aerodynamic parameters of translational and rotational drag, the AERO+ concept by DT Swiss acknowledges the additional extended aerodynamic quality criteria a modern aero road wheel should meet and pursues a more comprehensive development approach accordingly:

THE AERO+ CONCEPT COMPRISES

CLASSIC AERODYNAMICS

- Translational drag
- Rotational drag

EXTENDED AERODYNAMICS

- Riding dynamics
 - Handling
 - Grip
 - Weight-aero performance ratio
 - Comfort
 - Rolling resistance
-

[Click for more information](#)



3

PRODUCT DEVELOPMENT AND FEATURES



REDEFINED RIM SHAPE

The aerodynamic optimization of the new ERC rim shape is based on the quality criteria defined in the AERO+ concept, pursuing two major objectives:

HANDLING STABILITY

Redefined rim shape design for a lower and more predictably changing steering moment and smooth stall.

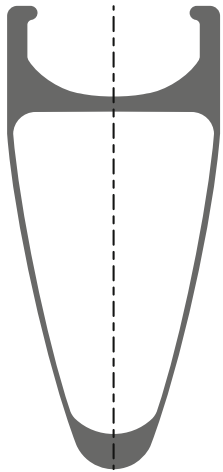
AERODYNAMIC DRAG

Aerodynamically optimized rim shape for further decreased drag values.



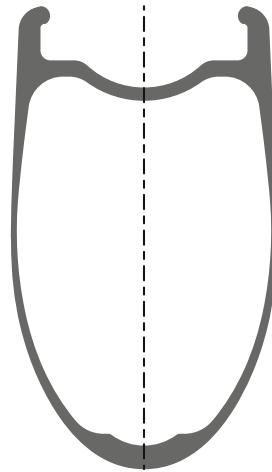
THE CHALLENGE

Low drag values and favorable handling properties of a wheel under crosswind conditions are physically opposing parameters. The challenge therefore arises in combining the two basic rim shapes established in the road bike industry (V and U) in an optimized way.



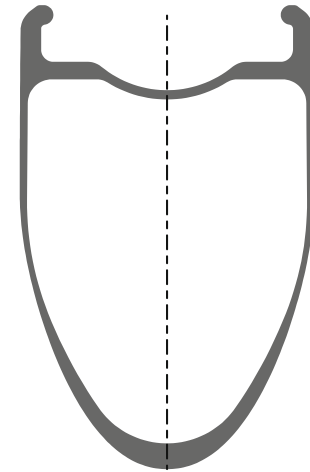
V-SHAPE

The V-shape converges to a pointy end of the rim and dates back to the very first ever rim shape on the market.



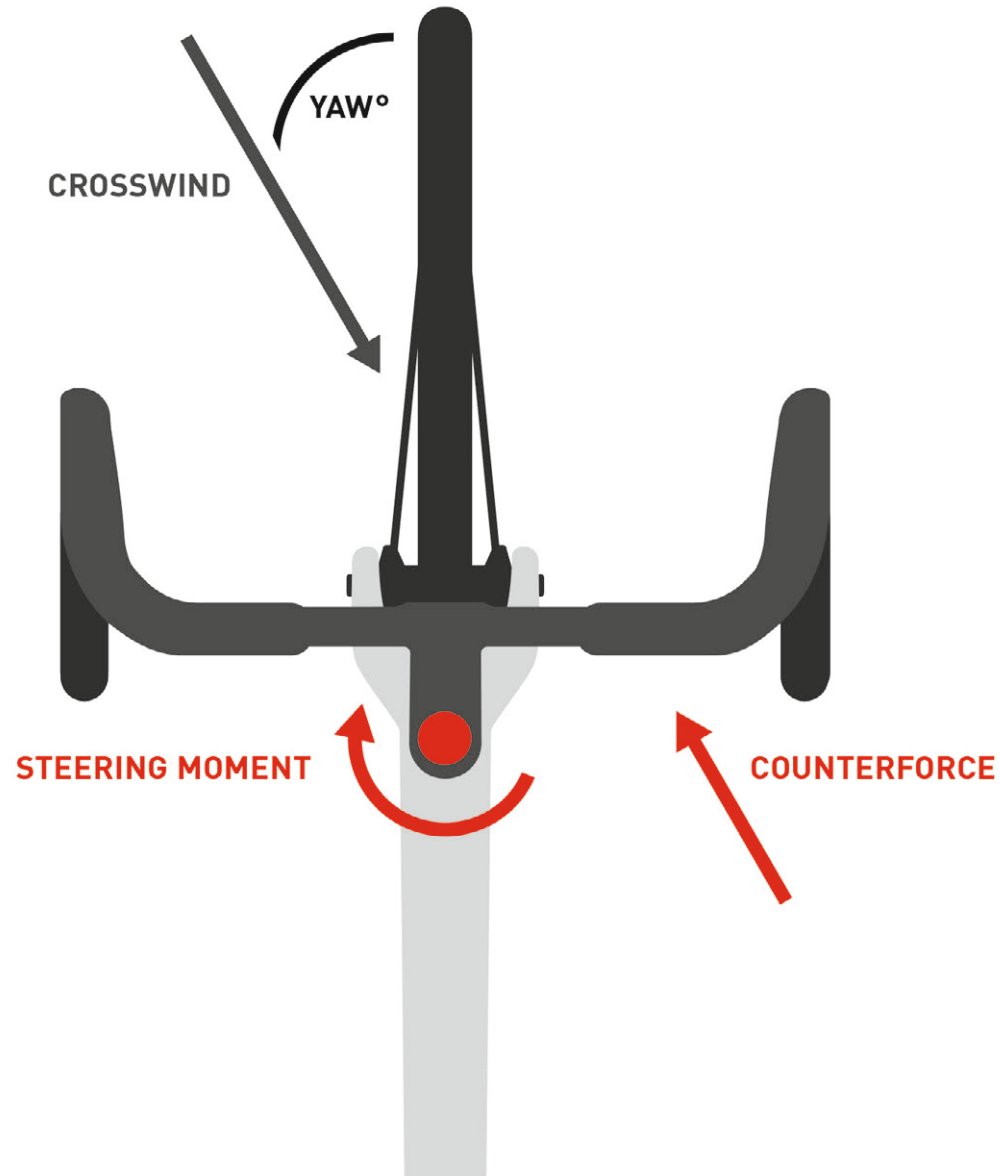
U-SHAPE

The V-shaped rim was later replaced by a U-shaped version, featuring a more bulbous rim body and a rounded end of the rim.



VU-SHAPE

The fusion in the VU-shape allows for the advantages of both the V and U-shaped rims, resulting in a pointy end of the rim and a more voluminous rim body.



RIDING DYNAMICS

STEERING MOMENT

Unless the wind hits the wheel at a yaw angle of 0° degrees, the resulting pressure difference between the tire- and the rim-leading side of the front wheel results in the creation of a lever and ultimately a so-called steering moment, acting to rotate the wheel around its steering axis.

From the cyclist's point of view, a steering moment is the physical counterforce he or she must exert in order to keep the wheel in position when it is hit by crosswinds or, while cornering, the force needed to steer the wheel to the side.

As the steering moment of the wheel strongly influences the overall handling of the wheel, a low and evenly changing steering moment along with a predictable and smooth stall greatly improves the handling of the wheel and thus the overall riding experience of the cyclist.

[Click for more information](#)

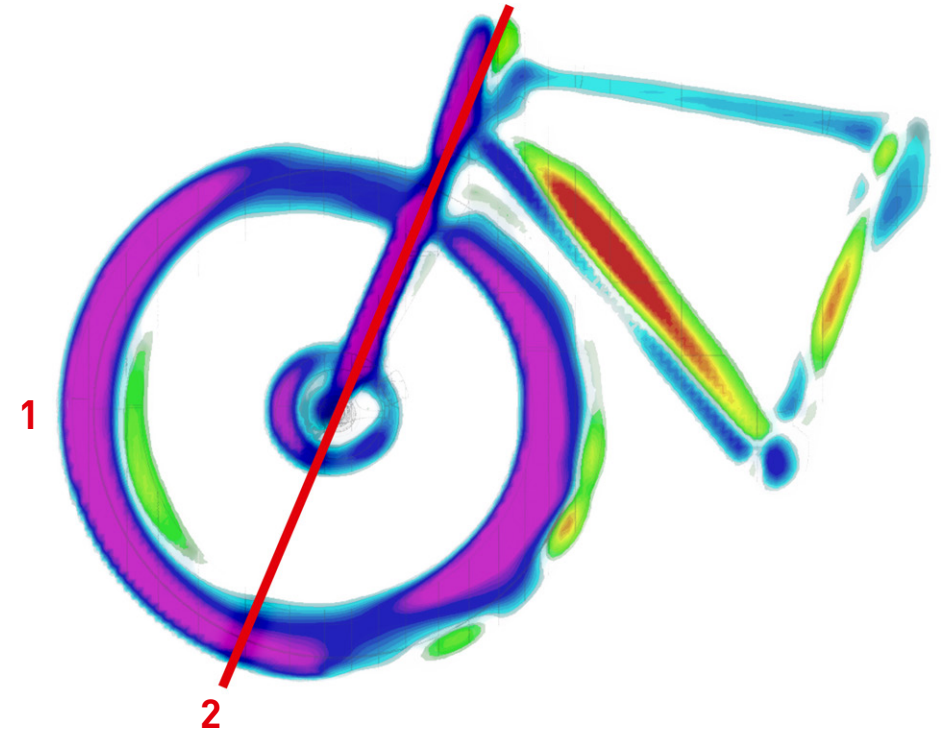
STEERING MOMENT

PHYSICAL EXPLANATION

The steering moment is caused by an asymmetric side force distribution acting on the wheel.

The side force distribution on a bicycle rim is asymmetric in crosswind conditions. This asymmetry generates a moment around the steering axis, i.e. the axis around which the wheel and fork turn when steering.

One goal in the development of the new AERO+ optimized ERC rim shape was to minimize this asymmetry by aiming for an even side force distribution in relation to the steering axis. This was achieved by employing Computational Fluid Dynamics (CFD) and wind tunnel testing.



- 1 Side force distribution (represented by the color scale)
- 2 Steering axis of the wheel

THE DEVELOPMENT APPROACH

PHASE 1

DEFINITION OF SPECIFICATIONS

The approach was based on experience in previous development of aerodynamically optimized rims and findings from market analysis. With the (re)definition of the field of application for the new ERC, along with the ensuing new quality criteria, the wheel must accordingly meet the following specifications:

- Endurance-specific road wheel, optimized for long distance performance rides under real world conditions (ASTM 2)
- Reduced steering moment of 20% as compared to ARC DICUT wheel in 50 mm rim height for improved handling
- Increased rim inner width of 22 mm and optimized for 28 mm wide tires to improve cushioning, rolling resistance and grip
- Development of wheel in rim heights of 35 and 45 mm for greater freedom of choice

THE DEVELOPMENT APPROACH

PHASE 2

CFD ANALYSIS TO DETERMINE POTENTIAL RIM SHAPES

Based on the development targets, a CFD simulation was conducted yielding several options, as shown in the area of consideration, with two favorable options for the rim shape of the new ERC rim:

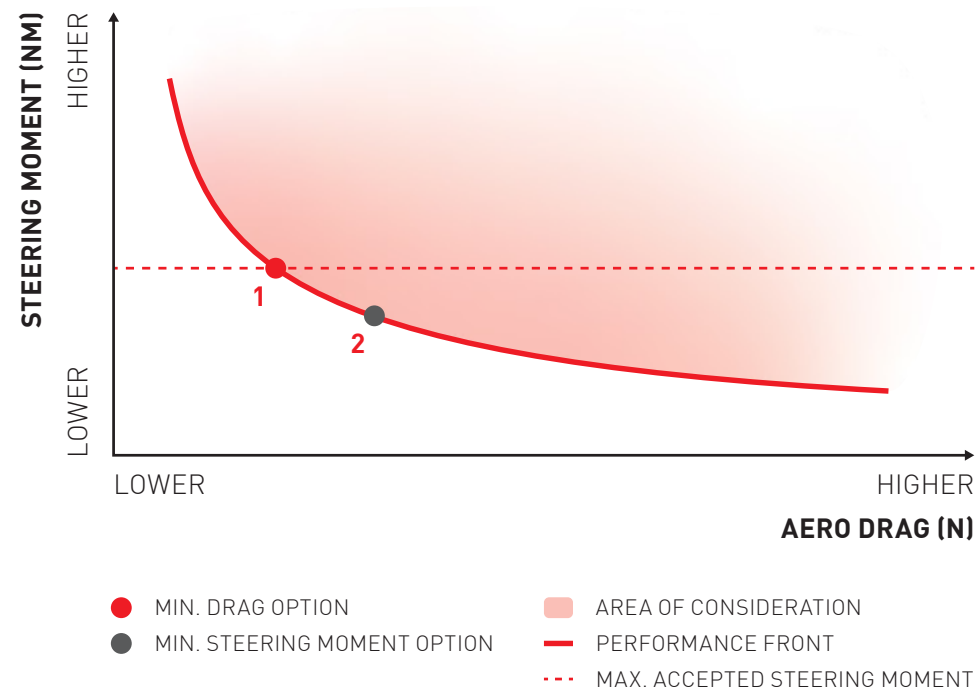
1 MINIMUM DRAG OPTION

A rim shape featuring the best aerodynamic drag value of all possible options within the *area of consideration*, and which also still lies within the defined target values for the *maximum accepted steering moment* of the wheel. This option would come with a slightly higher steering moment as compared to the minimum steering moment option.

2 MINIMUM STEERING MOMENT OPTION

A rim shape which features a lower steering moment, but simultaneously has worse drag values than the best drag option.

It was decided to further investigate on both rim shape alternatives.



THE DEVELOPMENT APPROACH

PHASE 3

RAPID PROTOTYPING

- Based on the CFD calculation: 3D printing of the two selected rim shape alternatives around an aluminum rim with 22 mm rim inner width
- Building both rims with specified spokes and hub of the final wheel

PHASE 4

WIND TUNNEL TESTING & INTERPRETATION

- Testing of prototypes in the GST wind tunnel in Immenstaad, Germany
- Analysis and interpretation of results
- Comparison with performance results of similar wheels in order to judge the qualities of the possible new rim shapes

THE DEVELOPMENT APPROACH

PHASE 5

DECISION AND ELIMINATION

Based on test results and defined quality requirements for the new ERC wheel, opted for minimum drag option over minimum steering moment rim. Acceptance of a slight steering moment penalty that comes with it.

REASONS FOR MAKING DECISION IN FAVOR OF MINIMUM DRAG OPTION

- Steering moment generally very low for both potential rim shapes
- Steering moment penalty of the «best drag option» minimal when compared to alternative options and competing products
- Lowest possible drag option within the set target defined for the new ERC rim shape regarding the steering moment
- The further improvement of the steering moment for the «Minimum Steering Moment Option» would come with a big penalty in aerodynamic drag, which would not fit a balanced ERC wheel as defined in the development objectives for the wheel



INCREASED RIM INNER WIDTH

The rim inner width of the new ERC was increased to 22 mm, resulting in the following benefits to the rider:

CUSHIONING

An increased rim inner width allows for the mounting of wider tires that can be ridden at a relatively lower pressure. The ensuing increased shock absorption capacity benefits the rider particularly on long rides with an improved cushioning of the wheel.

GRIP & TRACTION

Mounting the same tire on a rim with an increased inner width allows the tire to assume a more rounded shape and influences the form of the contact area and therefore its grip and traction.

The resulting increased contact area between the tire and the surface profits the rider with heightened traction, which in turn improves the handling of the wheel, allowing for safer cornering at a higher speed, for instance.

REDUCED ROLLING RESISTANCE

Rolling resistance is about more than just the forces which are applied to roll on different surfaces or overcome obstacles. Wider rim inner widths and wider tires support efficiency and riding characteristics such as traction and comfort. This is one of the reasons the rim was optimized for 28 mm wide tires.

Wider tires tend to have a positive influence on rolling resistance as well. Thanks to their greater volume, they have a broader contact patch and can be ridden with less air pressure without risking a pinch flat. In comparison with the narrower contact area of narrow tires, the contact area of wider tires is "shorter". Thus, the tire deforms more easily and rolling resistance decreases. With a modern tubeless tire this effect can be further amplified.

SIDELINE STABILITY

An increased rim inner width reduces lateral flexing of the tire during cornering or while sprinting, providing more handling stability and steering precision to the rider.



DT SWISS

AERO SPOKES

Already successfully contributing to the improved aerodynamics of the latest Aero road lineup, the new generation DT Swiss aero spokes are now specified for ERC 1100 DICUT wheels as well:

- The wider but thinner blade of the aero spokes results in a further reduction of rotational drag
- T-head spokes guarantee the permanent, aerodynamically optimal alignment of the spokes in the wheel for reduced rotational and translational drag
- Due to increased compression during the flat forging process, the spokes feature enhanced tensile strength for increased durability

[Click for more information](#)



SPOKE SPECIFICATIONS

ERC 1100 DICUT

- **DT AEROLITE II:** DT Swiss' lightest spokes stand for excellent aerodynamics and increased lateral stiffness. The center piece is first reduced and butted during a cold forging process and subsequently bladed. This process increases the strength of the material and generates the flat shape. The distinctive feature of these spokes is its aero shape, which is 35 % wider and 23 % thinner as compared to the first generation.
- **DT AERO COMP II:** spokes developed for high lateral stiffness and maximum traction. The DT aero comp II spokes feature a more aerodynamic cross-section area compared to the first generation, as well as a further balanced ratio of stiffness, aerodynamics and durability.

ERC 1400 DICUT

- **DT AERO COMP:** The ERC 1400 DICUT wheels are built up with the reliable first generation DT aero comp spokes. The production processes of cold forging followed by blading result in enhanced tensile strength of the spokes.

DT SWISS

WEIGHT-AERO PERFORMANCE RATIO

The quality of the weight-aero performance ratio of a wheel can be judged by putting its weight in relation to its aerodynamic performance, based on the intended usage of the wheel and the ensuing quality requirements.

Based on this criteria, the weight-aero performance ratio of the new endurance-specific ERC lineup can be described as well balanced, supporting the rider in coping with a variety of terrains, street and wind conditions encountered particularly on longer rides.

The wheels are fast on flats, yet responsive and quick to accelerate after cornering or on climbs, thereby increasing the versatility of uses to the rider and the performance he or she can yield from it.

ERC 1100 / 1400 DICUT 45

A wheelset for making use of all the advantages from wider tires, while still providing low aerodynamic drag.

ERC 1100 / 1400 DICUT 35

Light and agile wheelset for versatile usage on all sorts of different terrains.





HUB WITH **RATCHET EXP TECHNOLOGY**

For the first time, the ERC lineup features the patented Ratchet EXP freehub technology.

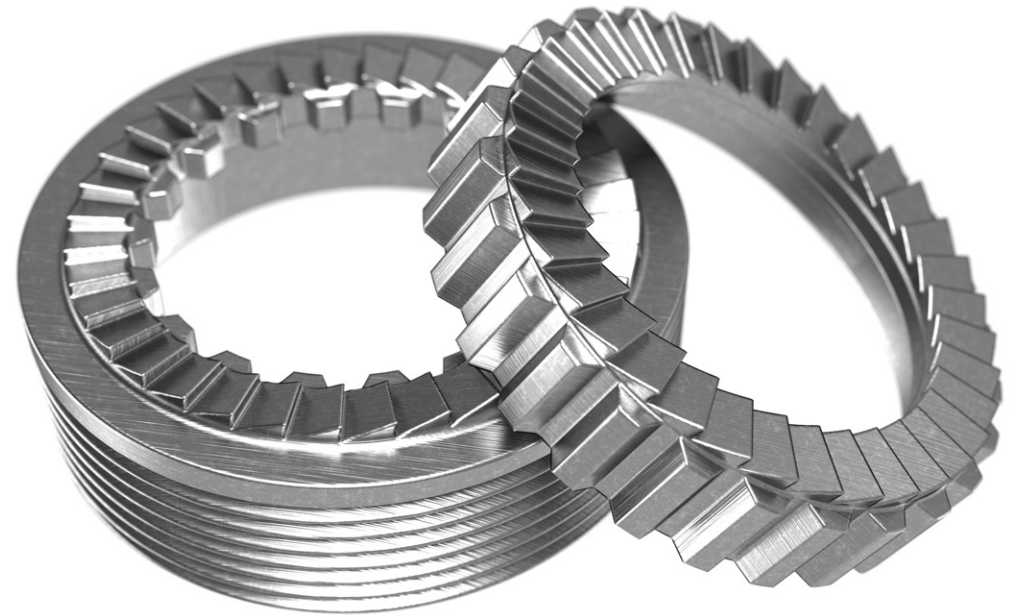
SUPERIOR RELIABILITY: Due to the firm connection between the inner ratchet ring and the hub body in conjunction with the Ratchet, an always precise engagement is ensured.

LONGER SERVICE LIFETIME: The greater distance between the bearings results in a stiffer hub and less wear due to reduced deflection.

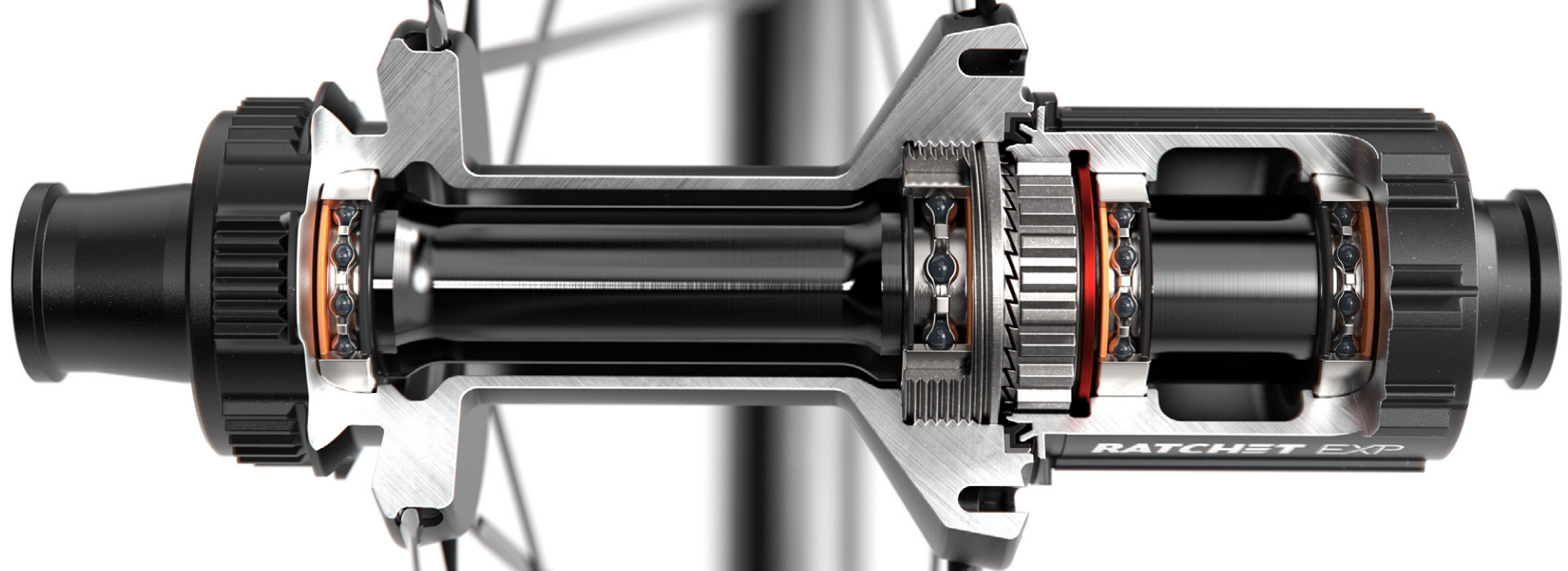
EASY MAINTENANCE: No-tool concept enables easy disassembly of the hub and conversion to different freehub body systems available on the market.

REMASTERED HUB BODY: Slimmer and stiffer hub body for improved aerodynamics and long lasting durability.

SINC CERAMIC BEARINGS (ERC 1100 / 180 DICUT HUB): For low rolling resistance and improved durability.



[Click for more information](#)



4

RESULTS AND ANALYSIS OF TESTS

DT SWISS

METICULOUS ENGINEERING AND TESTING

DT Swiss is committed to ongoing market observation and continuous investment in research, development and testing. This investigation and consecutive multi-year development efforts for the ERC resulted in two distinctive results.

AERODYNAMIC DRAG

The ERC 1100 DICUT 45 features the lowest weighted drag values across relevant yaw angles in comparison to the tested competing products.

STEERING MOMENT

Both rim levels of the ERC in 45 and 35 mm feature a competitively low, evenly changing steering moment without kinks, resulting in predictable handling of the wheel under crosswind conditions.



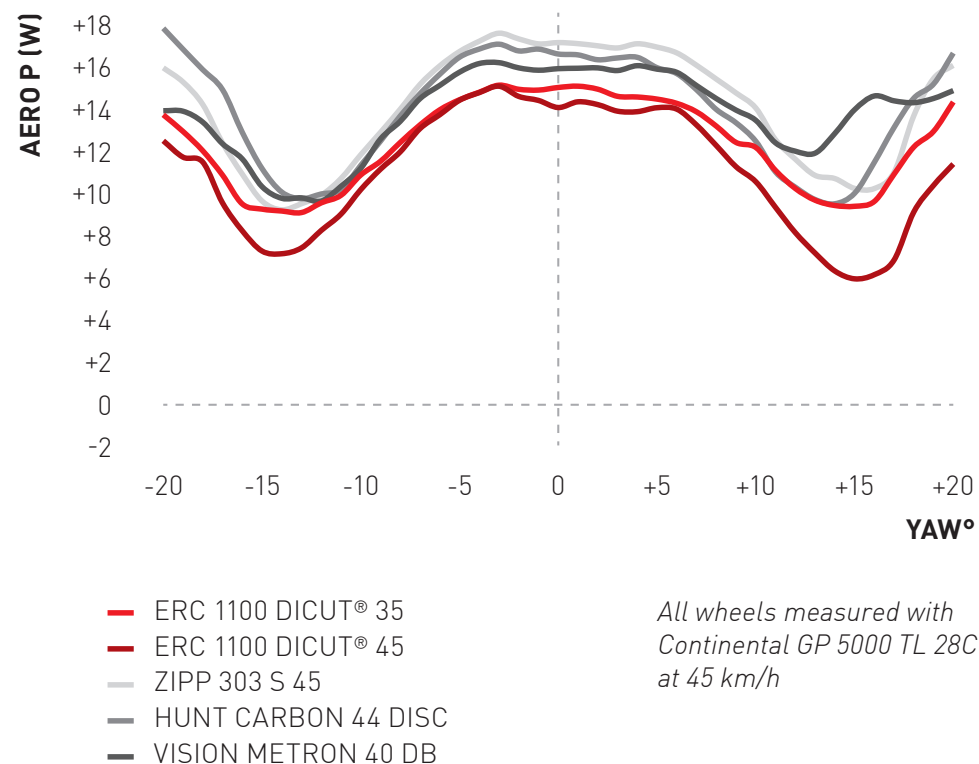
DRAG PERFORMANCE COMPETITOR ANALYSIS

The chart displays the aero drag performance of selected wheels at yaw angles between -20 and +20 degrees. A lower curve (closer to the x-axis), therefore a lower drag, is favorable for a wheelset. Weighted drag: measured drag of a specific wheel put into ratio with occurrence of yaw angles under real world conditions.

WEIGHTED DRAG PERFORMANCE

The ERC 1100 DICUT 35, despite having the lowest rim height among the tested wheels of 35 mm, demonstrates the second lowest drag value across relevant yaw angles in weighted drag of 13.1 W and an improved drag performance of around 1 watt when compared to the next best competing product.

The ERC 1100 DICUT 45, with 12.2 W in weighted drag, distinctively displays the lowest base drag (drag at 0° yaw angle) of all tested wheels. Within the range of relevant yaw angles the drag performance of the wheel is better by around 2 watts when compared to the next best competing product. A late detachment of the airflow from the rim at a yaw angle of about 15° further shows its excellent aerodynamic behavior.



DRAG PERFORMANCE INTERNAL ANALYSIS

The chart displays the aero drag performance of selected wheels at yaw angles between -20 and +20 degrees. A lower curve (closer to the x-axis), therefore a lower drag, is favorable for a wheelset. Base drag: aerodynamic drag at 0° yaw angle (headwind conditions).

BASE DRAG PERFORMANCE

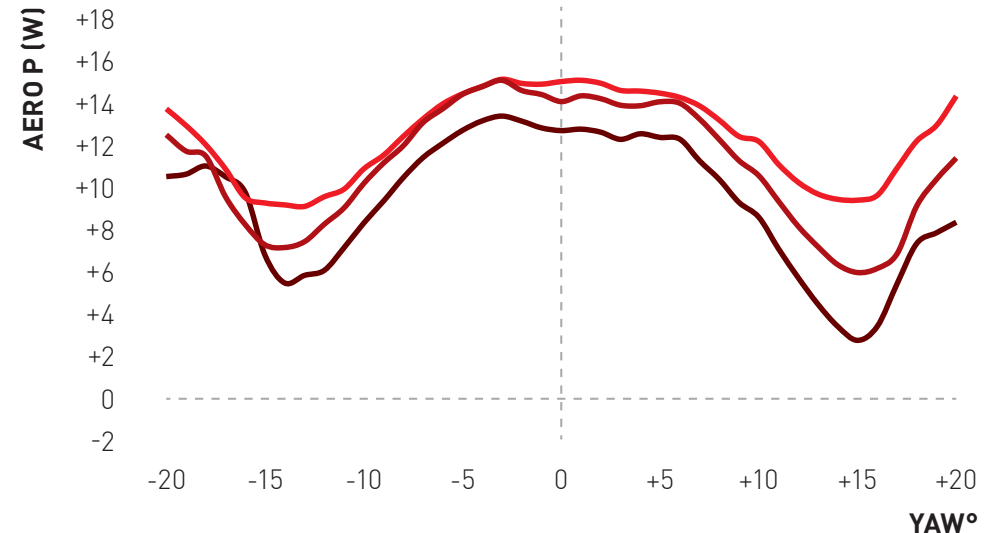
- The ERC 1100 DICUT 35 at 0° yaw has a base drag of 15.0 W.
- The ERC 1100 DICUT 45, due to the comparatively higher rim, features a base drag of 14.1 W.
- The ARC 1100 DICUT 50 at a rim height of 50 mm and tested with 25 mm tires has a base drag of 12.7 W.

Compared with the ARC 1100 DICUT 50 and given the reduced rim heights of the ERC 1100 DICUT wheels at 35 mm and 45 mm (tested with 28 mm tires) respectively, their base drag performance can be judged as very competitive.

WEIGHTED DRAG PERFORMANCE AND SAILING EFFECT

As indicated by the descending lines left and right to the y-axis, all three wheels profit the rider with a sailing effect, with the weighted drag performance of the wheels being as following:

- ERC 1100 DICUT 35: 13.1 W weighted drag
- ERC 1100 DICUT 45: 12.2 W weighted drag
- ARC 1100 DICUT 50: 10.5 W weighted drag



- ERC 1100 DICUT® 35
- ERC 1100 DICUT® 45
- ARC 1100 DICUT® 50

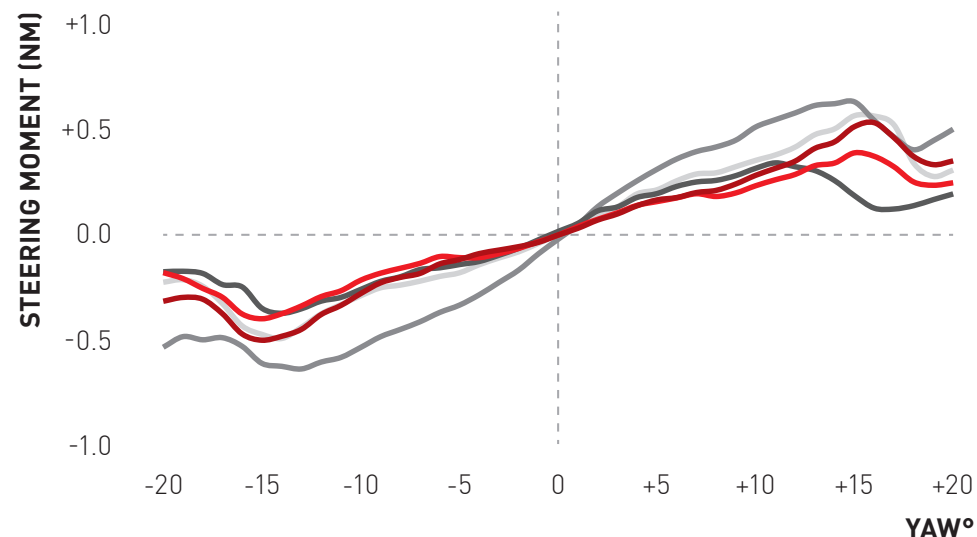
*Wheels measured with
Continental GP 5000 TL
28C (ERC) / 25C (ARC)
at 45 km/h*

STEERING MOMENT COMPETITOR ANALYSIS

The chart displays the steering moment of different wheels in Nm at yaw angles between -20 and +20 degrees. The closer the curve to the x-axis at any given yaw angle, the lower the steering moment, which results in a favorable wheelset.

As displayed in the chart, most wheels tested including the ERC 1100 DICUT in 35 mm and 45 mm rim height have a low and evenly changing steering moment.

Based on their respective weighted steering moments, the ERC 1100 DICUT 35 and the ERC 1100 DICUT 45 both feature a generally low and linear progression of thline steering moment curve, as well as a smooth stall. All three characteristics combined benefit the rider with good handling and predictable steering behavior of the wheel under crosswind conditions.



- ERC 1100 DICUT® 35
- ERC 1100 DICUT® 45
- ZIPP 303 S 45
- HUNT CARBON 44 DISC
- VISION METRON 40 DB

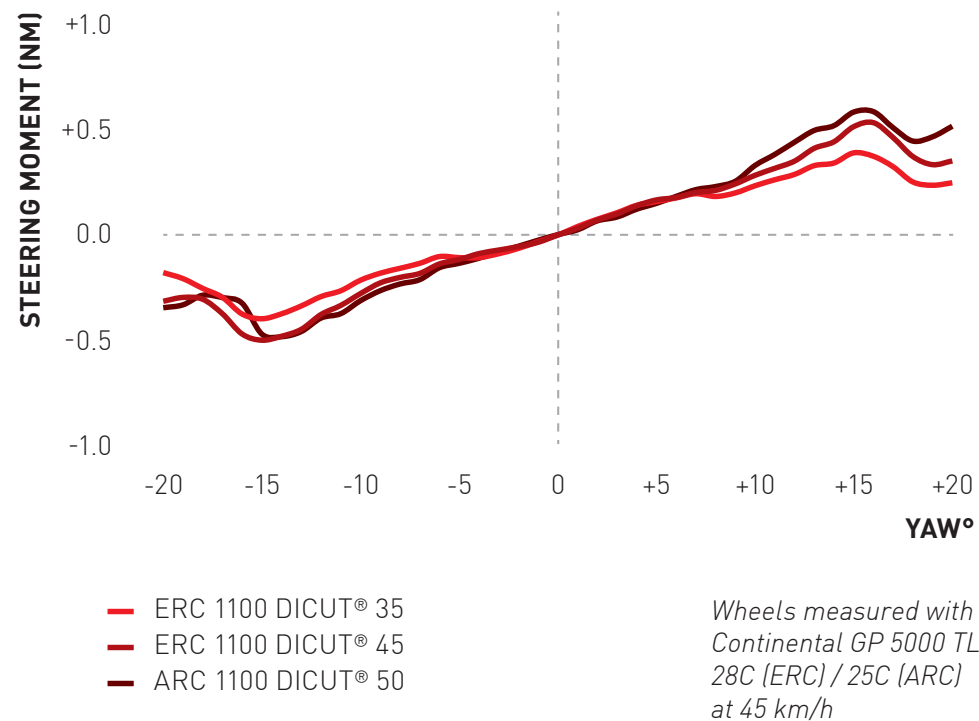
*All wheels measured with
Continental GP 5000 TL 28C
at 45 km/h*

STEERING MOMENT INTERNAL ANALYSIS

The chart displays the steering moment in Nm of the ARC 1100 DICUT 50 in relation to the ERC 1100 DICUT in rim heights of 45 mm and 35 mm and at yaw angles between -20 and +20 degrees. The closer the curve to the x-axis at any given yaw angle, the lower the steering moment, which results in a favorable wheelset.

The ERC 1100 DICUT 35 and ERC 1100 DICUT 45 both feature a lower steering moment than the ARC 1100 DICUT with 50 mm rim height. This is in part due to the lower rim height of the two ERC wheels of 5 mm (ERC 1100 DICUT 45) and 15 mm (ERC 1100 DICUT 35) respectively, but can also be attributed to the shape of the rim itself, which has been optimized for low susceptibility to crosswinds.

As a result, and in comparison to the ARC 1100 DICUT 50, the change of the steering moment curve of the ERC 1100 DICUT 35 and ERC 1100 DICUT 45 wheels at around -15° and +15° respectively is also less rapid, indicating a generally more predictable stall and therefore improved handling to the rider.



CFD ANALYSIS

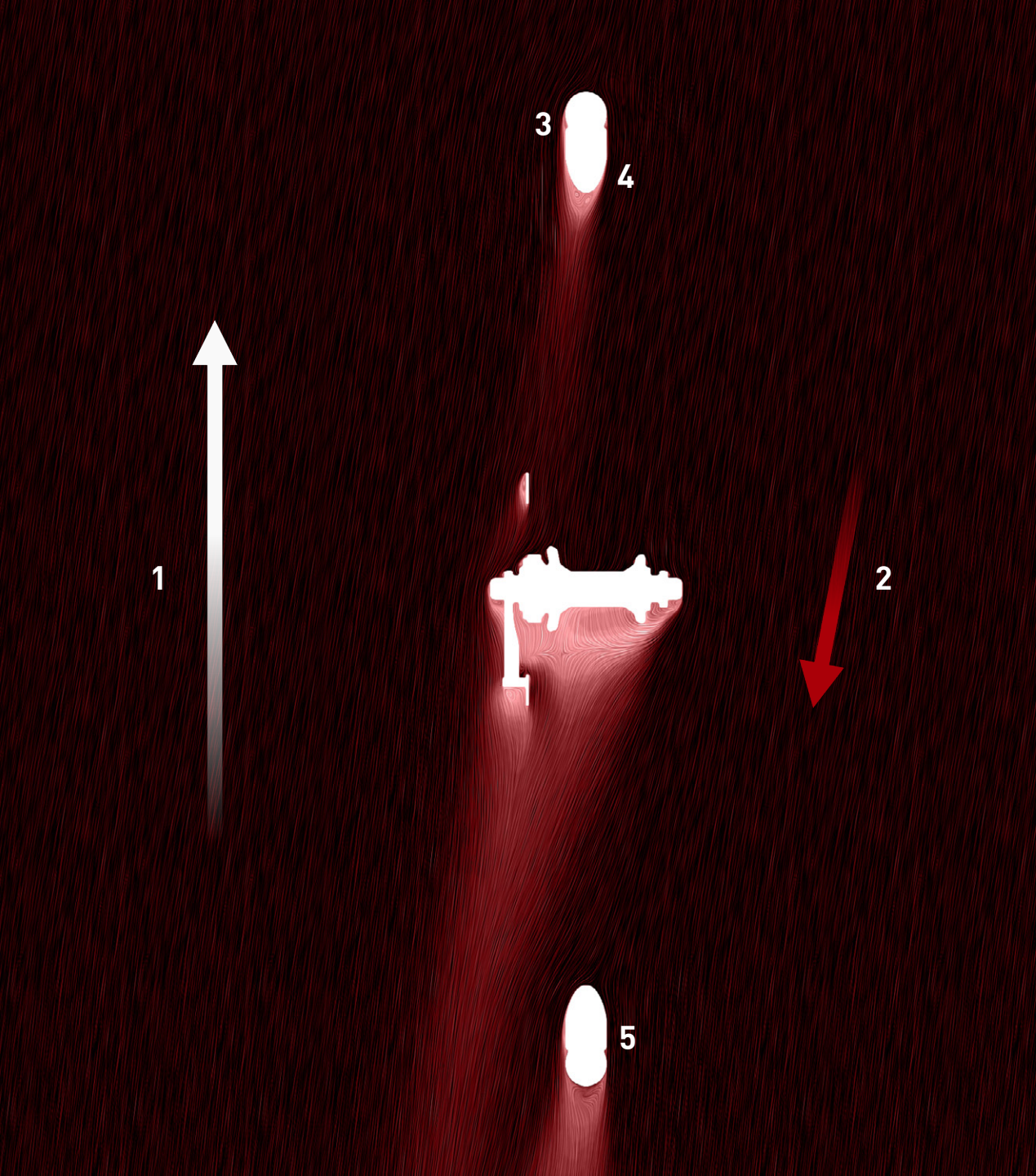
REPORT ON THE CFD ANALYSIS AND DRAG OPTIMIZATION

Computational Fluid Dynamics (CFD) analysis was used to simulate the airflow behavior of several rim shape models with varying shapes.

CFD ILLUSTRATION

The graphic shows the front wheel of the ERC 1100 DICUT 45 in cross section at the level of the hub, visible in the center. The tire-leading front part of the wheel is displayed at the top, the rim-leading part at the bottom, below the hub.

- 1** Riding direction of the wheel
- 2** Airflow hitting the wheel at a simulated yaw angle of 10°
- 3** Little wind turbulences caused at the transition area between rim and tire, ensuring a high degree of attachment of the air to the rim
- 4** Tire-leading side of the wheel: following the tire-rim transition area, the airflow stays attached to the surface of the rim until stalling towards the edge of the rim, resulting in reduced drag
- 5** Rim-leading side of the wheel: Airflow stays attached to the surface of the rim until stalling



5

PRODUCT SPECIFICATIONS

ERC 1100 DICUT®

UNRESTRICTED ROAD RIDING EXPERIENCE WITH MULTI-PURPOSE ERC WHEELS.

Various road surfaces or weather conditions cannot deter you: the endurance-specific ERC wheels enable you to ride fast and stable. With new AERO+ optimized rim profiles, wider and more comfortable tires are supported. Ultra low-friction SINC Ceramic bearings inside the 180 DICUT Aero hub and the latest generation of DT Swiss aero spokes are technical highlights inside the wheels. And the proven Ratchet EXP freehub system with its 36T Ratchets transfers each pedal stroke precisely into forward propulsion and speed – from the start right to the finish of your ride.

ERC 1100 DICUT 35

This wheelset will be your reliable companion, especially in challenging mountainous terrains. The aero-optimized low-profile rims are light and allow agile riding characteristics.

ERC 1100 DICUT 45

No matter where you ride, the aero-optimized wheelset with a mid-high Carbon rim supports your ride on different road profiles. Whether you enjoy an easier longer climb or the following smooth descend, riding will feel almost effortless.



ERC 1100 DICUT®



ERC 1100 DICUT® 35

Prices from
EUR 2'387.80 / USD 3'239.80 / CHF 2'652.80
GBP 2'299.98 / AUD 3'999.00

Weight from 1391 g
650b & 700c



ERC 1100 DICUT® 45

Prices from
EUR 2'387.80 / USD 3'239.80 / CHF 2'652.80
GBP 2'299.98 / AUD 3'999.00

Weight from 1442 g
700c

ERC 1100 DICUT®

RIM

RIM HEIGHTS	45 mm / 35 mm
RIM INNER WIDTH	22 mm
RIM DIAMETER	700c (additionally 650B for ERC 1100 DICUT® 35)
RIM SHAPE	Hooked rim, AERO+ optimized by Swiss Side for 28 mm tire
ALLOWED TIRE WIDTH	Min: 25 mm Max: 64 mm
COMPATIBILITY OF WHEELS AND TIRES	Tubeless ready, Clincher (Tubeless crotchet)
MAX. SYSTEM WEIGHT	120 kg
ASTM-CLASS	ASTM 2
BRAKE SYSTEM	Disc brake

HUB

HUB LEVEL	180 DICUT®
HUB TECHNOLOGY	36T Ratchet EXP
BEARINGS	SINC ceramic bearings
FREEHUB BODY	Shimano Road
INCLUSIVE	SRAM XDR freehub body kit
BRAKE SYSTEM	Center Lock
AXLE DIMENSIONS	Front wheel: 12/100 mm Rear wheel: 12/142 mm

SPOKES

MODELS	DT aerolite® II & DT aero comp® II, t-head
SPOKE PATTERN	Two-cross (1:1) Front wheel: 24x DT aerolite II Rear wheel: 12x DT aerolite II 12x DT aero comp II
NIPPLE	DT Pro Lock® hidden aluminum

INCLUSIVE: Tubeless valve (alu, black), valve guard, tubeless tape 25 mm, wheel bag

ERC 1400 DICUT®

THE VERSATILE WHEELSET FOR YOUR NEXT ENDURANCE RIDE.

Wherever the road takes you, the all-new ERC wheels with their AERO+ optimized rim profiles allow you to stay in control during your extended endurance ride. Kilometers will pass by, almost effortless when riding on wider and comfortable tires. Each pedal force is transferred into propulsion and speed onto the 240 DICUT Aero hub by the reliable Ratchet EXP freehub system and DT aero comp t-head spokes. Simply enjoy your ride along the way.

ERC 1400 DICUT 35

Fast and light. An agile wheelset for your variable ride, also suitable for KOM chasers.

ERC 1400 DICUT 45

Aero-optimized wheelset with mid-height rim for longer rides on various terrains along your route. Ride comfortably and handle your bike safely even in fast descends.



ERC 1400 DICUT®



ERC 1400 DICUT® 35

Prices from
EUR 1'956.80 / USD 2'654.80 / CHF 2'173.80
GBP 1'869.98 / AUD 3'299.00

Weight from 1468 g
650b & 700c



ERC 1400 DICUT® 45

Prices from
EUR 1'956.80 / USD 2'654.80 / CHF 2'173.80
GBP 1'869.98 / AUD 3'299.00

Weight from 1519 g
700c

ERC 1400 DICUT®

RIM

RIM HEIGHTS	45 mm / 35 mm
RIM INNER WIDTH	22 mm
RIM DIAMETER	700c (additionally 650B for ERC 1400 DICUT® 35)
RIM SHAPE	Hooked rim, AERO+ optimized by Swiss Side for 28 mm tire
ALLOWED TIRE WIDTH	Min: 25 mm Max: 64 mm
COMPATIBILITY OF WHEELS AND TIRES	Tubeless ready, Clincher (Tubeless crotchet)
MAX. SYSTEM WEIGHT	120 kg
ASTM-CLASS	ASTM 2
BRAKE SYSTEM	Disc brake

HUB

HUB LEVEL	240 DICUT®
HUB TECHNOLOGY	36T Ratchet EXP
BEARINGS	Stainless steel bearings
FREEHUB BODY	Shimano Road
INCLUSIVE	SRAM XDR freehub body kit
BRAKE SYSTEM	Center Lock
AXLE DIMENSIONS	Front wheel: 12/100 mm Rear wheel: 12/142 mm

SPOKES

MODEL	DT aero comp®, t-head
SPOKE PATTERN	Two-cross (1:1)
NIPPLE	DT Pro Lock® hidden aluminum

INCLUSIVE: Tubeless valve (alu, black), valve guard, tubeless tape 25 mm, wheel bag



RESIZED **650B WHEELS**

At both hub levels, the ERC 1100 DICUT 35 and ERC 1400 DICUT 35 wheels are also available in the rim diameter of 650B.

The smaller rim diameter provides improved handling with adapted geometry of smaller bicycle frames and prevents a possible toe overlap in sharp turns.

6

APPENDIX

RECOMMENDED TIRE SIZE

RECOMMENDED TIRE SIZE: 28 mm

ALLOWED TIRE SIZES: 25 mm – 64 mm

The ERC wheel with a rim inner width of 22 mm is aerodynamically optimized for 28 mm tires. For greater comfort and improved rolling resistance on rough, fast-changing surfaces, we recommend a 30 mm wide tire on the rear wheel.

DT SWISS

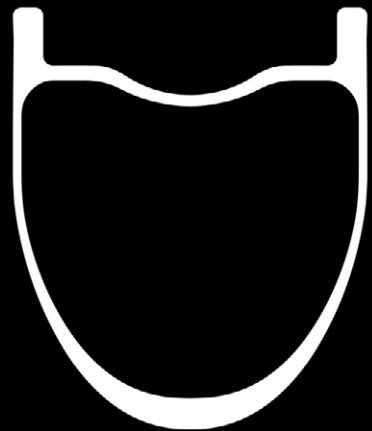
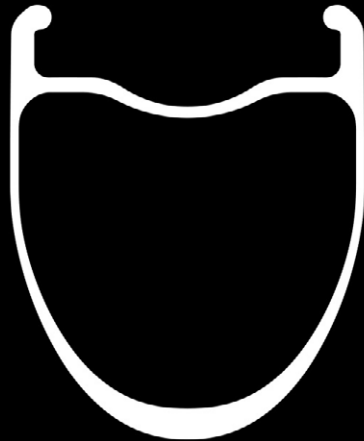
TUBELESS TECHNOLOGY

DT Swiss has been advocating for tubeless technology since 2016. Reasons being reduced rolling resistance, improved puncture resistance and easier assembly compared to a similar tubed tire setup.

In cooperation with leading tire manufacturing companies and in compliance with the ISO 4210 (Bicycles and components) and the ISO 5775-2 (Bicycle rims) norm, the rim profiles of wheels like the new ERC have been optimized to ensure compatibility of the wheel and tire.

[Click for more information](#)



**HOOKLESS RIMS****HOOKED RIMS**

HOOKED VS HOOKLESS

Despite being more complicated to manufacture, DT Swiss continues to produce rims with hooks, including the new ERC wheel line-up.

PROS AND CONS HOOKED RIMS

PRO – SAFETY

Hooked rims generally support a safer hold of a tire on the rim. In case of inappropriate usage of tire pressure or more extreme riding situations, a hooked rim diminishes the risk of an unintentional blow-off of the tire.

PRO – FREEDOM OF CHOICE

The hooks of the rim allow the choice of a broader range of tire types, sizes, systems and manufacturers. Tubeless or tubed type tire systems can equally be used.

NEUTRAL – NO WEIGHT PENALTY

Hooked rims are generally not heavier than their hookless counterpart, as the additional material need for the tip of the hook is saved on lower parts of the rim.

CON – SOPHISTICATION AND COST

Engineering and producing rims with hooks is more complex compared to hookless rims, demanding an increased degree of sophistication and experience on behalf of the wheel manufacturer.

DT SWISS

FAIR-SHARE POLICY

The ERC 1100 DICUT and ERC 1400 DICUT wheels are covered through the DT Swiss Fair-Share policy. The replacement costs per wheel will be CHF 249 / EUR 249 / USD 249.

[Click for more information](#)





PRODUCT SUPPORT TOOL

IDENTIFY, SERVICE, CONVERT

DT Swiss introduces the new product support tool. This tool provides all information about every single part of a product and its conversion possibilities, as well as manuals and how-to videos. To simplify the product identification, all DT Swiss products (starting MY21) have a DT Swiss ID to clearly identify the product.

[Click for more information](#)

7

LAUNCH DETAILS

DT SWISS

LAUNCH DETAILS

PUBLIC LAUNCH

Thursday, November 09, 2021 at 09:00 am CET

LANDINGPAGE

[Go live: November 09, 2021 at 09:00 CET]

www.dtswiss.com/en/innovations/erc-redefined-stability

PRODUCT DETAIL PAGE ERC 1100 DICUT

www.dtswiss.com/en/wheels/wheels-road/endurance/erc-1100-dicut

PRODUCT DETAIL PAGE ERC 1400 DICUT

www.dtswiss.com/en/wheels/wheels-road/endurance/erc-1400-dicut

ASSETS AVAILABLE

[Go live: November 02, 2021]

<https://filesharing.dtswiss.com/urlib0q1ea2dl2k>



PRODUCT PRESENTATION INTERVIEW

What are the features of the new endurance-specific ERC road wheels and their fields of application? Check out the interview with Simon Wassmer, product manager at DT Swiss and Jean-Paul Ballard from Swiss Side.

[Click here to watch the video](#)



YOUR **CONTACT**

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