



DE BETHUNE

L'ART HORLOGER AU XXI^e SIÈCLE

DB29 Maxichrono Tourbillon

Press release, Baselworld 2014





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Unique in watchmaking history

Introducing De Bethune's neo-mechanics

Twelve years ago David Zanetta, an art lover and connoisseur of traditional watchmaking, and Denis Flageollet, an innovative designer and constructor of watches, set up the De Bethune project, ranging from the development of watchmaking techniques to research applied to the horological arts.

Their research follows on from that undertaken by the great horologists of the age of enlightenment, while assimilating the new technologies and materials to which the fundamental calculations and principles of conventional mechanics have been applied.

The various innovations emanating from the De Bethune laboratory not only bear witness to these intentions, they also express the conviction that there is much unexplored territory in the field of watchmaking technology.

Work on the regulating organ that is at the heart of every watch obeys well-known physical properties: inertia, mass, elasticity, surface friction and magnetism. Fundamental to the improved precision and efficiency of watch movements are such technological advances as the patented balance-spring with flat terminal curve, balance-wheels in silicon and white gold or in titanium and platinum featuring maximum inertia for a minimum weight, as well as the development of a real tourbillon for the wrist in silicon and titanium.

The DB29 Maxichrono Tourbillon, the result of seven years of research and development, is the only one of its kind. This exceptional patented chronograph, packed with innovations, embodies the essence of De Bethune's watchmaking.

A mono-pusher chronograph

The rose-gold case of the DB29 with its smooth curves features the brand's trademark cone-shaped lugs. The double case back of this time-measuring instrument is fitted with an invisible hinge so as not to detract from its clean lines. A single push button, coaxial with the crown at 3 o'clock, operates the chronograph.

Five central hands

The design of the DB29 Maxichrono Tourbillon's dial with its five central hands aims to make it easier and more attractive to read the chronograph indications by doing away with the small subdials of the conventional chronograph. The hands that give this watch its identity are designed to follow the different shapes and curves of the silver-toned dial. They are all in hand-polished steel that has been flame-blued by the company's craftsmen, apart from the chronograph minutes hand, which is in rose gold.



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Measuring long elapsed times: 23 hours, 59 minutes and 59.9 seconds

This instrument measures long elapsed times with counters for 60 seconds, 60 minutes and 24 hours. The central chronograph hands are mounted on co-axial stacked wheels, a complex system that requires real technical expertise to achieve.

Thanks to the precision ensured by the De Bethune 30-second Tourbillon in silicon and titanium oscillating at a rate of 36,000 vibrations per hour – one of the fastest and lightest on the market with its 63 parts weighing a total of 0.18 grams – time is accurately measured and the maximum duration of elapsed-time measurements amounts to a generous 23 hours, 59 minutes and 59.9 seconds.

A push button at 4 o'clock opens the cover on the sapphire-crystal glass of a titanium case back to reveal the modern construction of the calibre DB2039 movement with its polished steel bridges, the tourbillon at 3 o'clock and the complex mechanism of an innovative time-measuring system featuring three column-wheels.

De Bethune total clutch system: a patented chronograph invention

De Bethune's research and development department has announced the filing of a patent application n° CH00076/14 for the chronograph mechanism. De Bethune's absolute clutch aims to improve the performance of chronographs by correcting the faults identified in current mechanisms.

This mechanism makes the most of the advantages of the horizontal and vertical clutch systems while eliminating their faults. It thus benefits from a marked reduction in the friction that affects the movement both when the chronograph is running and when it is functioning without the chronograph engaged.

The absolute clutch operates in a system engaging the two traditional clutch methods to allow the different chronograph counters to function semi-autonomously:

- The chronograph seconds are governed by the new absolute clutch system;
- The minutes counter is controlled by a shifting pinion;
- The hours counter is engaged by a horizontal clutch.

Three different types of clutch behind three semi-independent systems controlled by three column-wheels thus govern the different chronograph elapsed-time counters.

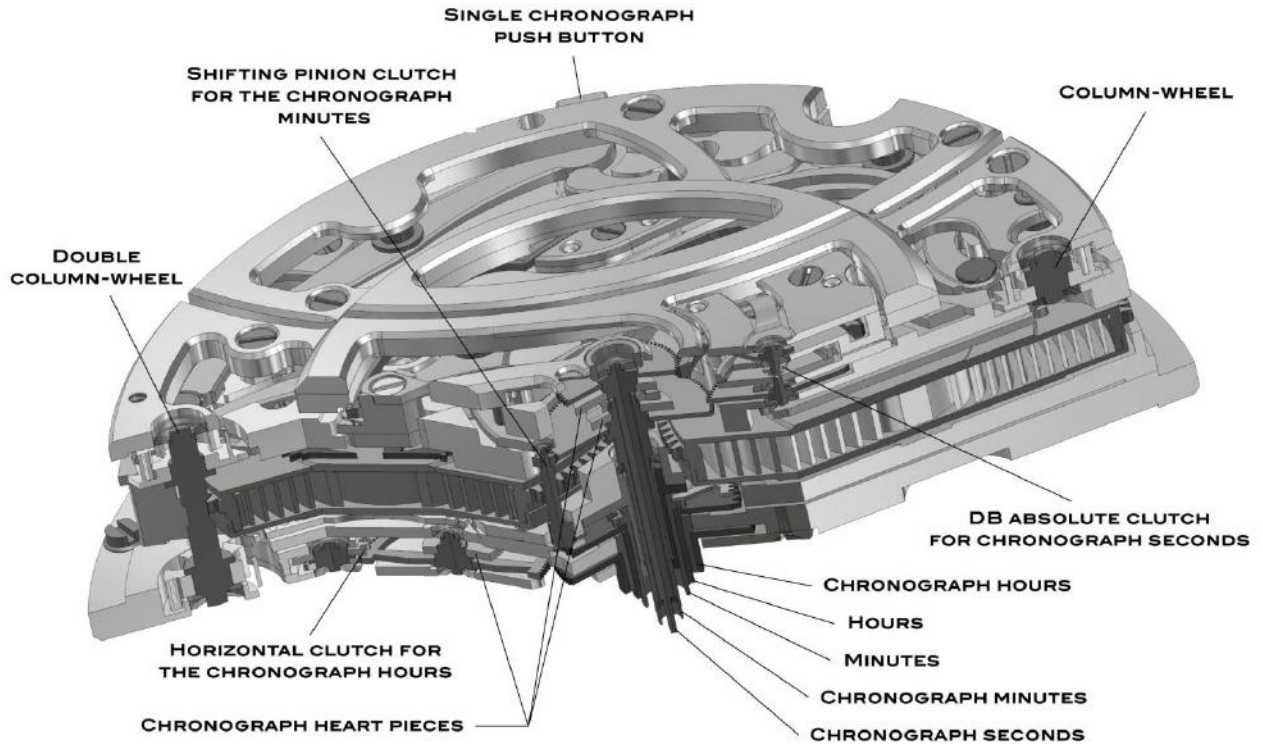
In this way De Bethune marks a significant technological breakthrough in the history of chronographs, the result of continuous research heralded by the DB21 Maxichrono in 2006. Constant innovation relying on an extensive knowledge of age-old expertise has enabled the brand to simplify and enhance the reliability of the absolute clutch system so that it can be implemented in a movement manufactured by the production workshops in the Swiss village of L'Auberson



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DB CHRONOGRAPH MECHANISM



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DB29 Maxichrono Tourbillon

Technical specifications

Name:	DB29 Maxichrono Tourbillon
Reference:	DB29RS1
Limitation:	Limited annual production of 20
Functions:	Hours, Minutes, Mono-pusher chronograph with 24 hours, 60 minutes and 60 seconds counters, 30'' indicator via the ultra-light De Bethune tourbillon cage on the back
Movement:	DB2039
Type:	Mechanical hand-wound movement
Adjustments:	Winding and setting the time by means of the crown (2 positions) Via a push-piece integrated in the crown for the chronograph function Via a push-piece at 4 o'clock to open the dome on the back

Technical features of calibre DB2039

Number of parts:	450
Jewelling:	53 jewels
Diameter:	30 mm
Power reserve:	5 days, ensured by a self-regulating twin barrel <i>De Bethune Innovation (2004)</i>
Specificities:	Silicon annular balance encircled by a white gold ring <i>De Bethune Patent (2010)</i> "De Bethune" balance-spring with flat terminal curve <i>De Bethune Patent (2006)</i> Silicon escape wheel Ultra-light De Bethune 30'' tourbillon in silicon and titanium <i>De Bethune Innovation (2008)</i> "De Bethune Absolute Clutch " <i>De Bethune Patent (2014)</i>
Frequency:	36,000 vibrations per hour
Adornment:	Bridges mirror-polished, sandblasted and snailed by hand Steel parts polished and chamfered by hand



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Display

- Display: 5 central curved hands – Hand-polished and flamed-blued steel for hours and minutes hands and chronograph hours and seconds indicators – Chronograph minutes indicator in rose gold
- Dial : Three dimensional silver dial constructed on different levels to maximize readability. From the center to the periphery: central hours counter – hour ring – minutes ring and minutes counter – 1/10th of second graduated outer ring for seconds counter

Case and strap

- Case material: Rose gold 5N
- Case diameter: 46 mm
- Case thickness: 11,7 mm
- Lugs: Cone shaped
- Crystal: In sapphire crystal (hardness of 1800 Vickers) with double anti-reflective coating
- Case back: Screwed down open back 30'' indicator via the ultra-light De Bethune tourbillon cage and on the chronograph mechanism
- Sapphire crystal (hardness of 1800 Vickers) with double anti-reflective coating protected by a polished rose gold 5N dome with invisible hinge
- Water resistance: 3 ATM
- Strap: Extra-supple alligator leather, alligator lining
- Buckle: Pin buckle in 5N rose gold

