



JAEGER-LECOULTRE PRESENTS THE DUOMETRE HELIOTOURBILLON PERPETUAL

- *An innovative tourbillon constructed on three axes to create a unique kinematic effect – a first for Jaeger-LeCoultre*
- *The Duometre concept allied to a perpetual calendar with a grande date*
- *New manual Calibre 388 developed and produced in-house*

Over the course of almost two centuries, Jaeger-LeCoultre has distinguished itself through the development of increasingly sophisticated means of achieving the perfect regularity of the 'heartbeat' of its calibres – essential for accurate timekeeping. Among the key areas of research in this pursuit of precision, the Manufacture has developed great expertise in tourbillons and also invented the Duometre mechanism, which enables the addition of complications without any compromise to the accuracy of the timekeeping function.

In 2024, Jaeger-LeCoultre unites these two lines of development, to create the Duometre Heliotourbillon Perpetual. Pushing the boundaries of inventiveness further than ever, the new Calibre 388 features an entirely new tourbillon construction: one that spins on three axes to create a 'spinning top' effect. Beating at a frequency of 4Hz (28,800 vph) to further enhance chronometry, Calibre 388 also incorporates a perpetual calendar with a *grande date* indication.

The Duometre Concept – a Breakthrough in Precision

Before Jaeger-LeCoultre developed the Duometre concept, adding complications to a watch movement seemed irreconcilable with accurate timekeeping. That is because the fundamental requirement of precise timekeeping is that the power supply from the movement's barrel to the escapement should be absolutely steady. However, in order to operate, a complication must draw on the power supply, which interrupts that steady flow and thus jeopardises precision.

Introduced in 2007, the patented Duometre mechanism features two barrels and two separate gear trains housed in a single calibre and linked to a single regulating organ. One gear train powers the time indications and the other drives all additional functions. By separating the power supply in this way, the Duometre mechanism guarantees an exceptionally high degree of operating accuracy.



Thanks to this ingenious concept, the Manufacture Jaeger-LeCoultre added a new chapter to watchmaking history, opening the door to horological complexity and laying the foundation of an entire Duometre collection.

The Heliotourbillon – a New Spin on Multiple Axes

Incorporating almost eight decades of accumulated expertise in the tourbillon regulating mechanism, the Duometre Heliotourbillon Perpetual, features a newly developed tourbillon configuration that rotates on three axes. In doing so, it creates a completely new kinematic effect for Jaeger-LeCoultre resembling a spinning top.

Initially devised for pocket-watches, the traditional tourbillon, which spins on a single axis, does not compensate for the effects of gravity in all positions. Having understood that an additional axis of rotation must be added in order to be more effective in all positions that a wrist-worn watch may adopt, Jaeger-LeCoultre's engineers developed the dual-axis Gyrotourbillon, and various other tourbillon configurations, each fitted with differently shaped hairsprings.

Fitted with a cylindrical hairspring, the Heliotourbillon takes this thinking further, with a newly developed construction comprising three titanium cages rotating on three axes. The first cage is set at a 90-degree angle to the balance wheel and rotates perpendicular to it. The second cage is set at 90 degrees to the first (thus, on the same plane as the balance wheel). Together, these two cages are constrained by an axis tilted at 40 degrees and make a full rotation in 30 seconds. The third cage is perpendicular to the second and makes a full rotation in 60 seconds. Supported on ceramic ball bearings to minimise friction, the tourbillon consists of 163 components and weighs less than 0.7 grams.

A Perpetual Calendar with a *grande date* Display

As a noble complement to the highly sophisticated tourbillon and Duometre mechanisms, Jaeger-LeCoultre's watchmakers integrated a perpetual calendar into Calibre 388. Among the most challenging complications to master, a perpetual calendar is a miniature mechanical computer that must automatically adjust for months of different lengths and for leap years; it needs manual correction of the day and date indications only in 2100 and in subsequent centenary years that are not also leap years.

A feature of Calibre 388 is that the hours and minutes can be set either backwards or forwards without compromising the perpetual calendar. Because normally, a perpetual calendar is set through the passing of time (the hour and minute hands), adjusting the time backwards desynchronises and can damage the calendar mechanism. In Calibre 388, the relationship between the winding and calendar assemblies is such that the perpetual calendar mechanism moves forwards only and cannot be dragged backwards when the time is set backwards.



Other notable features of Calibre 388 include a Grande Date display: a classical yet rare complication sought-after by watch connoisseurs, it is set at the 3 o'clock position on the hours-and-minutes sub-dial, ensuring great legibility. The year indication shows the last digit of a leap year in red – a Jaeger-LeCoultre patent – and the moon-phase indication is accurate to 122 years.

A Refined Dial Reinterprets the Duometre's Aesthetic Codes

The Duometre collection has always been distinguished by the powerful symmetry of the dial layout. On the dial of the Duometre Heliotourbillon Perpetual, the triangular arrangement that directly expresses the underlying mechanism with its two barrels and gear trains has been turned 90 degrees, as if the winding crown forms the apex of the triangle, the time display is flanked by the two power reserves, and the 'base' of the triangle is formed by the moon-phase indicator and days on one side and the months and years on the other.

On the vertical axis, the two sides of the dial are separated by a gold bridge with contrasting areas of microblasting and bevelling, creating an intriguing play of light – and echoing the finishes on the watch case. The left-hand side of the dial is open-worked to provide a fascinating view of the tourbillon performing its 'spinning top' rotation – a kinematic effect created by the combination of the three cages rotating on different axes and at different speeds. A sapphire crystal window in the side of the case offers another way to view this captivating mechanical show.

The tourbillon is set above a background of deep blue lacquer representing a starry sky and, as it spins, red triangles set on the third cage indicate 20-second intervals marked on a sapphire crystal arc that floats above the starry blue background. On the main dial refined finishes abound, with applied hour indexes and frames around the date and year, and a mix of opaline, brushed and azuré surfaces creating subtle contrasts between the different indications.

Epitomising the noble art of watchmaking tradition, this fine decoration is carried over to the movement, even on components that are not visible through the sapphire crystal caseback: brushed surfaces contrast with perlage, edges are hand-bevelled and polished, and sunrayed Geneva stripes (*côtes de Genève soleilées*) radiate seamlessly across the entire expanse of the bridges. Like all Jaeger-LeCoultre movements, Calibre 388 was conceived, designed, produced, assembled and finished within the Manufacture.

A New Duometre Case: Contemporary Elegance Inspired by Tradition

Marking the launch of three new Duometre models in 2024, Jaeger-LeCoultre has designed an entirely new case for the collection. A contemporary interpretation of the savonette pocket watches created by the Maison in the 19th-century, its rounded contours are highly tactile as well as visually appealing. (The French word *savonette* literally means a small disc of soap with rounded contours that can be cradled in the palm of a hand.) With its convex crystal and gracefully rounded bezel, the new Duometre case



expresses this literal definition very well. The crown, too, has been redesigned, with deep and rounded notches that make it a joy to handle. Indeed, the only sharp lines to be found are on the highly polished edges of the lugs.

Measuring 44 mm in diameter, the case is a complex structure of 34 separate parts and the lugs are screwed rather than integrated, to enable multiple finishing techniques. A mixture of polished, brushed and micro-blasted surfaces creates a fascinating play of light with every movement of the wrist. The apparent simplicity of the case belies its complexity of detail, which perfectly complements the complexity of the calibre within.

With its extreme mechanical sophistication, innovative tourbillon and highly refined aesthetics, the Duometre Heliotourbillon Perpetual represents a new adventure in the Maison's quest for precision, as well as its boundless creativity.

TECHNICAL CHARACTERISTICS

DUOMETRE HELIOTOURBILLON PERPETUAL

Case: Pink Gold 750/1000 (18 carats)

Dimensions: 44 mm x 14.7 mm thick

Calibre: Manually-wound Jaeger-LeCoultre Calibre 388

Functions: Hours and Minutes, Seconds, Heliotourbillon, Perpetual calendar (Day, Date, Month, Year), Moon phases, Two power reserves

Power Reserve: 46 hours for each barrel

Front dial: Silver opaline

Water resistance: 3 bar

Strap: Brown alligator leather with small-scale alligator lining

Reference: Q6202420 – limited edition of 20 pieces

About Jaeger-LeCoultre – The Watchmaker of Watchmakers™

Since 1833, driven by an unquenchable thirst for innovation and creativity, and inspired by the peaceful natural surroundings of its home in the Vallée de Joux, Jaeger-LeCoultre has been distinguished by its mastery of complications and the precision of its mechanisms. Known as the Watchmaker of Watchmakers™, the Manufacture has expressed its relentlessly inventive spirit through the creation of more than 1,400 different calibres and the award of more than 430 patents. Harnessing 190 years of accumulated expertise, La Grande Maison's watchmakers design, produce, finish and ornament the most advanced and precise mechanisms, blending passion with centuries-old savoir-faire, linking the past to the future, timeless but always up with the times. With 180 skills brought together under one roof, the Manufacture creates fine timepieces that combine technical ingenuity with aesthetic beauty and a distinctively understated sophistication.