



VACHERON CONSTANTIN  
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High Watchmaking  
Retrograde displays, a  
Vacheron Constantin signature

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## High Watchmaking

### Retrograde displays, a Vacheron Constantin signature

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- Retrograde displays, which appeared in the 18th century and are sometimes accompanied by jumping indications, represent a technical difficulty that calls for extreme precision.
- At Vacheron Constantin, jumping indications appeared in pocket watches as early as 1824, with retrograde-display wristwatches following a century later.
- These horological complications have become a Vacheron Constantin signature and are now part of the company's current collections.

Special displays, which are used in the construction of mechanical watch movements to uncouple the functions indicated on the dial from the going train, were of interest to watchmakers at a very early stage. These complications, which include jumping and retrograde displays, offer the possibility of new technical and aesthetic interpretations of the passing of time. Vacheron Constantin began designing pocket watches with jumping indications from the dawn of the 19<sup>th</sup> century and developed watches with retrograde displays in the 20<sup>th</sup> century. These display complications have become a technical and aesthetic signature of the Maison and are featured in several collections.

Retrograde and jumping displays are a technical complication that rapidly caught the attention of watchmakers wishing to go beyond traditional time indications involving a central hour hand and the date shown by a number appearing through an aperture. Historical records contain mentions of these alternative modes in the mid-18<sup>th</sup> century already, thanks to dial arrangements made possible by displacing certain time or calendar indicators. Vacheron Constantin's first jumping displays appeared as early as 1824. But it was above all from the mid-1930s onwards that the Maison distinguished itself with retrograde displays on wristwatches, at a time when watchmaking codes were driven by strong creative momentum.



1. Mercator platinum wristwatch, bi-retrograde display (Ref. Inv. 12055) – 2001  
 2. "Arms in the air" two-tone yellow and white gold pocket watch, bi-retrograde display (Ref. Inv. 11060) – 1930  
 3. Yellow gold, onyx, rock crystal and lapis lazuli Art Deco clock (Ref. Inv. 10548) – 1927

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### High-precision mechanisms

A display is said to be of the retrograde type when the indicator does not make a complete turn of the dial, but instead returns to its starting point and begins running again after covering its entire measurement segment. This is usually by means of a hand moving across the arc of a circle. In addition to retrograde displays for cyclical time indications such as hours, minutes, seconds or dates, there are also so-called "sweeping-type" retrograde displays such as for a power reserve.

This mechanism requires great precision. Unlike a traditional watch, the retrograde hand does not mesh directly with the wheel dedicated to it but is instead positioned on an off-centred arbor – itself equipped with a spring and a pinion. The gear wheel is topped by a notched snail cam. Between the two is a lever arm with a beak on one side that slides along the snail, and a rack on the other, which meshes with the central sweep-second pinion for example. The rotation of the gearing thus moves the retrograde hand forward via this lever arm which tensions the spring. At the end of its trip, when the beak drops into the notch of the snail, the lever instantly returns the seconds hand to zero with the aid of the spring attached to the pinion. This type of mechanism requires rigorous discipline, particularly in terms of resistance to shocks and wear. Depending on its components, the indicator returns to its initial position at speeds that can exceed 60 km/h.

Jumping displays also require a special construction. The principle is that the energy from the gear is transmitted to a storage mechanism which discharges periodically. Here too, there is usually a spiral cam. When this cam has completed a full revolution, a lever falls into its notch, instantly releasing the display concerned, such as the hours display, or even several displays if the system is series-coupled, thereby causing cascading reactions.



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1. Pocket watch with jumping hour and minutes displayed beneath the dial by a hand (Ref. Inv. 10152) – 1929
2. Mercator platinum wristwatch, bi-retrograde display (Ref. Inv. 12055) – 2001







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### Looking back: the Roaring Twenties

Historically, there is mention of an astronomical parquet clock with a retrograde date made in Germany in the mid-18<sup>th</sup> century, while at the same time some clocks displayed the hours and minutes on semi-circular dials graduated from 6 o'clock to 6 o'clock and travelled over by retrograde hands. As for pocket watches, a model with retrograde date and month from 1791 is described in the *Journal Suisse d'horlogerie* in 1906, while the Maison Lépine in Paris produced a watch with a retrograde hour hand in the same decade. However, it was at the beginning of the 20<sup>th</sup> century, and especially from the Roaring Twenties onwards, when watchmaking freed itself from the codes of the pocket watch, that special displays, and in particular retrograde displays, became very popular. The Art Deco movement was in full swing and creative minds were at work creating imaginative cases and dials with retrograde or even jumping displays. Vacheron Constantin distinguished itself during this period, with watches whose freedom of style perfectly embodied this artistic momentum.

Jumping displays, involving an abrupt change of the time indication, were fully involved in these new definitions of watchmaking codes. First introduced with the jumping second in the mid-18<sup>th</sup> century, then with the jumping hour, this display enjoyed its first great success in the 1820s with the famous window watches in which the numerical time was indicated by a jumping disc at 12 o'clock, while the minutes were shown by a hand, like the regulators. Vacheron Constantin made its mark with the first jumping hour creation in 1824. Jumping minutes soon appeared through an aperture with the seconds hand as the only element consistent with traditional timepieces. With the advent of wristwatches, the disc-type display of jumping hours accompanied by trailing minutes became popular, particularly as the virtual absence of hands made these models particularly shock-resistant.

With the revival of mechanical watches, jumping displays have undergone significant developments by means of rotating segments, mobile pallet stones or even rotating prisms, not forgetting the combination of jumping hours and retrograde minutes chosen by Vacheron Constantin on its Saltarello model, for example. The same holds true for retrograde indications. After a long period of absence, this type of complication was revived with the renewed success of the mechanical wristwatch in the 1990s. From a technical standpoint, the dial became more complex with bi-retrograde, tri-retrograde and even more complex displays.



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### Vacheron Constantin and retrograde displays

Special retrograde displays enjoyed their first golden age at Vacheron Constantin from the 1920s onwards, a period when the company distinguished itself with a style perfectly reflecting the aesthetic principles of Art Deco. To understand the genesis of this creative impulse, one must go back a few years, to when Vacheron Constantin first came into contact with Ferdinand Verger. In 1880, management of the Manufacture's sales in the various French departments was entrusted to this young watchmaker based on the Place des Victoires in Paris. He founded his own watch case-making business in 1896, while remaining the exclusive representative of Vacheron Constantin, from which he purchased the watches and movements. In 1920, his sons took over his estate under the new name Verger Frères, continuing the partnership with Vacheron Constantin until 1938.

This collaboration resulted in numerous creations between 1910 and 1930. This Art Deco period was conducive to letting the imagination roam free and indulging in the wildest extravagances. With the ever-increasing number of special-shaped 'form' watches, aperture-type date indications appeared, as did special displays, including jumping hours and retrograde minutes. One of the essential models that made Vacheron Constantin famous during these years was the 1930 "Bras en l'Air" (Arms in the Air) pocket watch with its double retrograde display. At the touch of the 10 o'clock pusher, the arms of a Chinese magician in engraved and enamelled gold rise up to indicate the hours and minutes. Another remarkable model dating from 1929 is a watch with jumping hour and minutes displayed beneath the dial by a hand of which only the onyx tip is visible.



1. Pocket watch with jumping hour (Ref. Inv. 10132) - 1824
2. Pocket watch with jumping hour and minutes displayed beneath the dial by a hand (Ref. Inv. 10152) - 1929
3. "Arms in the air" two-tone yellow and white gold pocket watch, bi-retrograde display (Ref. Inv. 11060) - 1930

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#### The legendary "Don Pancho"

The watch dubbed Don Pancho by collectors after the person who commissioned it, was made by Vacheron Constantin during the 1930s. In 1935, the Maison received a letter from Brooking, its official dealer based in Madrid, with an order from a customer for a wristwatch with functions that were, at the time, more likely to be reserved for the Manufacture's complicated pocket watches. Production of this model was complicated by communication difficulties at the dawn of World War II and the Spanish War, which caused the landowner client Francisco Martinez Llano to flee to Chile. The correspondence preserved in the company's archives provides a chance to follow the creative process of this timepiece, one of only three wristwatches known to have been produced before 1940 and combining a minute repeater, calendar indications, as well as a retrograde hand.

It took four years to fulfil this order and deliver Reference 36260, today known as the Don Pancho, in 1940. This yellow gold tonneau-shaped wristwatch featured a distinctive 12 o'clock crown and a minute repeater chiming on deliberately low notes, activated by a dedicated right-hand slide-piece. The calendar functions offer an indication of the days of the week in the small seconds counter, complemented by a date with a central retrograde hand. The caseback bore the blue enamelled initials of Francisco Martinez Llano. The watch came with five easily interchangeable identical straps and two dials bearing the double inscription Vacheron & Constantin Genève and Brooking Madrid – one of which had radium-enhanced luminescent numerals as well as likewise luminescent hands. Francisco Martinez Llano wore this watch for seven years before his death in 1947 after which the piece disappeared into the family vaults for 60 years. It reappeared in 2010, perfectly identified thanks to Vacheron Constantin's records from the 1930s.

A new episode in the story of the Don Pancho took place in 2019 when it went under the hammer at auction – a significant event for this one-of-a-kind model presented as one of the most complicated wristwatches of its time, as described within the Phillips auction catalogue (May 2019): *"The historical importance of the present timepiece cannot be emphasized sufficiently. Made during an era where multi-complicated wristwatches simply did not exist, it was a technical feat and masterpiece of human genius. The combination of a minute repeater and calendar with retrograde date were never seen before in a wristwatch and we had to wait close to 60 years to see anything similar."* Already alerted to the existence of this exceptional timepiece by a 1990s publication on Vacheron Constantin's historical watches, collectors were immediately interested in the Don Pancho, which achieved the second highest bid ever for a Vacheron Constantin wristwatch.







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### An aesthetic signature

After the 1930s, there was a lull in the creative inspiration behind special displays. At Vacheron Constantin, the craze for unusual dials reappeared in the 1990s, notably with the Mercator watch presented in 1994. The company's designers were inspired by the early 20th century "arms in the air" display and integrated it into the much smaller volume of a wristwatch. A tribute to the 16th century geographer Gérard Mercator, this creation features a double retrograde display of trailing hours and minutes on an enamelled or engraved dial. The positioning of the hand axis at 12 o'clock provides an ideal surface for expression on this model from the Métiers d'Art collection. Three years later, in 1997, at a watch show in Berlin, the Maison distinguished itself with its limited edition of the Saltarello watch with jumping hours and retrograde minutes on a sunray guilloché silver-toned dial.

With the advent of the new millennium and the apogee of the mechanical watch, watchmaking daring translated into greater freedom for the dials. Vacheron Constantin's retrograde displays became part of the current collections. The first examples appeared in References 47245 and 47247, two wristwatches showing the days of the week at 6 o'clock and a retrograde calendar on a semi-open dial in the case of the second model. Reference 47031 took the same approach with the addition of a perpetual calendar. These watches dating from the early 2000s prefigured the Patrimony collection, whose curves were inspired by 1950s Vacheron Constantin models. Reference 57260, unveiled on the occasion of Vacheron Constantin's 260<sup>th</sup> anniversary in 2015, features a retrograde date and a split-seconds chronograph with a double retrograde hand, an original and novel complication.

This aesthetic signature is picked up in the 2023 new models from the Maison, interpreted through the Overseas, Patrimony, Traditionnelle collections and at the heart of the one-of-a-kind Les Cabinotiers Dual Time Grand Complication. These models symbolise Vacheron Constantin's very own watchmaking style in which technique is dedicated to elegance.



1. Mercator gold wristwatch (Ref. Inv. 12130) – 1994  
2. Saltarello yellow gold wristwatch, jumping hour display and retrograde minutes (Ref. Inv. 11000) – 1997

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### Watch selection

#### 1. "Arms in the air" two-tone yellow and white gold pocket watch, bi-retrograde display –1930

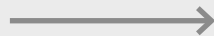
This two-tone, bi-retrograde pocket watch made in 1930 illustrates the aesthetic liberty afforded by special displays. It features a Chinese magician whose arms indicate – on demand and at the touch of a 10 o'clock pusher – the hours and minutes on two graduated segments appearing on either side of the satin-finished silver dial. As the hours pass, the engraved and enamelled gold magician adopts various different postures, reminiscent of the automatons in vogue at the time.

#### 2. La Caravelle diamond-set platinum pocket watch, bi-retrograde display –1937

The 1880s saw the emergence of a specific sector-type "raised arms" or "arms in the air" display. Most of these dials bear a figure with moving arms serving to indicate the hours and minutes. This display is generally not continuous, instead requiring pressure on the case pendant to position the hands on the actual time. A century later, the Roaring Twenties gave a new lease of life to this original "arms in the air" display, as on this 1937 pocket watch called La Caravelle. The sails of the central diamond-set vessel are extended by two retrograde hands used to indicate the hours and minutes.

#### 3. Yellow gold, onyx, rock crystal and lapis lazuli Art Deco clock –1927

With its eight-day movement and retrograde hour display, this 1927 clock reflects the purest Art Deco style. Crafted in 18K yellow gold and enhanced with onyx, rock crystal and lapis lazuli, it features a fan-shaped structure displaying the signs of the zodiac. On the front is a fountain mascaron with water flowing through its rock crystal mouth.







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#### 1. Mercator yellow gold wristwatch, bi-retrograde display –1995

The Mercator watch, a tribute to the humanist and learned geographer Gérard Mercator (1512–1594), is equipped with a retrograde and divergent double-sector hours and minutes display, appearing on an entirely hand-engraved 18K yellow gold dial depicting the map of the Americas according to Gérard Mercator's cartography. The two hands, positioned on the 12 o'clock axis, enable instant reading of the hours and minutes. They form a compass with movable feet similar to the instrument that the cartographer used throughout his life and which he made his signature.

#### 2. Saltarello yellow gold wristwatch, jumping hour display and retrograde minutes –1997

The cushion-shaped Saltarello model is a response to this aesthetic quest for a "classic with a twist" approach, within which elegance is expressed in a quirky and original way. It features a sunburst silver-toned dial with an Arabic numeral minute track framed by a yellow gold case with a transparent caseback.

#### 3. Saltarello pink gold wristwatch, jumping hour display and retrograde minutes –2000

First presented at a watch show in Berlin in 1997, the Saltarello watch was produced in a limited edition of 500 in white (200), pink (200) and yellow (100) gold. Equipped with Calibre 1120 driving an aperture-type jumping hours display and a retrograde minutes hand, this watch pays tribute to the special displays for which Vacheron Constantin was known in the 1920s. This model is one of the 200 pink gold timepieces with a hand-*guilloché* pink gold dial.

#### 4. Mercator platinum wristwatch, bi-retrograde display –2001

The dial crafted in *Grand Feu* polychrome enamel using cloisonné and miniature techniques reproduces the maps drawn by 16th century Flemish mathematician and geographer Mercator, notably that of Europe appearing on this dial. The compass-shaped retrograde hands, jumping for the hours and semi-dragging for the minutes, were specially designed for this collection.



1. Mercator yellow gold wristwatch, bi-retrograde display (Ref. Inv. 11992) – 1995  
 2. Saltarello yellow gold wristwatch, jumping hour display and retrograde minutes (Ref. Inv. 11000) – 1997  
 3. Mercator platinum wristwatch, bi-retrograde display (Ref. Inv. 12055) – 2001

Founded in 1755, Vacheron Constantin is the world's oldest watch Manufacture in continuous production for over 265 years, faithfully perpetuating a proud heritage of watchmaking excellence and stylistic sophistication through generations of master craftsmen.

At the pinnacle of Haute Horlogerie and understated elegance, the Maison creates timepieces with unique technical and aesthetic signatures, and an extremely high level of finishing touches.

Vacheron Constantin brings to life unparalleled heritage and a spirit of innovation through its collections: Patrimony, Traditionnelle, Métiers d'Art, Overseas, Fiftysix, Historiques and Égérie. It also offers its discerning clientele of connoisseurs the rare opportunity to acquire unique and bespoke timepieces by means of its "Les Cabinotiers" department.

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