

## **WORLD FIRST: BLANCPAIN CARROUSEL VOLANT UNE MINUTE**

**Blancpain once again displays its innovative strength by presenting the first ever movement equipped with a one-minute karussel. A complication all but forgotten for over a century by the great names in the watch industry, the karussel is a viable alternative to the tourbillon. Like the latter, it aims to reduce the effect of gravity on the rate of a movement. By rehabilitating this mechanisms and opening up whole new horizons for this mechanism reduced to wristwatch size for the very first time, Blancpain once again makes its mark on watchmaking history and puts a stylish end to the heated debate between exponents of diverging views on the definition of the karussel.**

Whereas very few brands in 1989 fully mastered the creation of classical tourbillons, Blancpain already stood out from the crowd by presenting the world's thinnest tourbillon. To achieve this, the master-watchmakers of the Manufacture in Le Brassus had modified the classic arrangement of the balance in order to achieve optimal slenderness. In doing so, they had naturally deviated from the architecture of the historical model developed by Abraham-Louis Breguet on which the balance was placed at the very centre of the carriage. Blancpain's decision to take such a liberty had already generated a number of reactions among connoisseurs, some of whom found it hard to recognise such an unusual composition as a genuine tourbillon. While the function was definitely there, the form had been entirely redesigned. This reinterpretation of a grand tradition already confirmed Blancpain its two-fold role as the guardian of a noble heritage and an enlightened innovator.

### **A major patented evolution**

The new Carrousel Volant Une Minute by Blancpain stems from a parallel process. Invented in 1892 by the watchmaker Bahne Bonnicksen, the karussel features a system driving the carriage by a differential effect. Long ignored by watchmaker, it has not been updated by the Manufacture which is offering a major patented evolution of the mechanism. While the early karussels took several minutes to perform a complete rotation, the one introduced by Blancpain takes exactly 60 seconds to cover the same distance – an impressive feat in itself. This swift movement and the effort devoted to reviving this invention are entirely in tune with the pioneering spirit of the Manufacture in Le Brassus.

Code-named 225, the self-winding calibre comprises 262 parts and is endowed with a 100-hour power reserve. It is housed within a platinum case measuring 43.5 mm in diameter and enhanced by a semi-skeleton dial revealing an array of toothed wheels, bridges and plates. A «light shaft» at 12 o'clock unveils the fascinating palpitations of the flying karussel, on which one of the carriage bridges indicates the seconds. The power reserve is displayed at 6 o'clock by a hand moving over an arc of a circle between the signs “+” and “-”. A double hand with arms of different lengths indicates the date on two graduated and staggered rows at 9 o'clock.

## **RENEWING THE KARUSSEL**

After revolutionising the tourbillon in 1989 with the presentation of an ultra-thin flying model equipped with an off-centred balance, Blancpain now presents an unprecedented interpretation of the karussel complication in the shape of its Carrousel Volant Une Minute. This refined technical device, the equivalent of the tourbillon in terms of its function, is distinguished in this version by its eminent complexity.

Blancpain thereby confirms its peerless innovative status by rehabilitating and enhancing the karussel, a complication that had been virtually relegated into oblivion shortly after it was presented in 1992 by its creator Bahne Bonniksen. By taking up the principles established by its inventor and presenting them in a considerably more evolved version, the Manufacture again demonstrates its dynamic momentum – and in doing so puts an end to a controversy that has nurtured heated debates among specialists.

Tourbillons and karussels share the property of compensating for the effects of gravity on a watch movement. By making the entire mechanism spin on its axis within a carriage, the movement itself manages to compensate for the detrimental effects of gravity by acting as an authentic regulator of time.

Karussels and tourbillons differ however in the manner in which they perform this function. In a tourbillon, the carriage is connected to the barrel through a single gear train. This means that if this mechanical connection is interrupted, the tourbillon itself stops rotating. The karussel on the other hand is linked to the barrel by two gear trains. The first provides the energy required to run the escapement, while the second controls the rotation speed of the carriage. The difference between the two systems thereby consists in a more sophisticated and component-rich construction in the case of the karussel.

### **60 seconds and a Blancpain patent**

In addition to the fact that it revives this under-exploited complication, the Blancpain Carrousel Volant Une Minute goes much further than Bonniksen's initial invention. While the latter paid no particular attention to the speed of rotation, which amounted to anything from 27 to 42 minutes depending on the model, the Manufacture has opted to develop a complete differential gear control system. Here again, Blancpain sets itself apart by being the first watch brand to appropriate this prestigious invention by updating and perfecting it. Until now, the differential gear system regulating the rotation of the karussel carriage had not been the object of any in-depth research. By elaborating – and patenting – a system causing it to rotate in exactly 60 seconds, Blancpain makes yet another decisive contribution to watchmaking history.

## **BLANCPAIN THE PIONEER**

### **1989: the Ultra-Slim Flying Tourbillon**

This is not the first time that Blancpain revisits a legendary horological complication and offers a totally innovative interpretation. In 1989, the Manufacture had caused a sensation by presenting its Ultra-Slim Flying Tourbillon endowed with an 8-day power reserve. The Manufacture from Le Brassus had taken the liberty of offering its own take on one of the most iconic and refined horological mechanisms; the tourbillon as it had been designed by its inventor Abraham-Louis Breguet.

Rightly considered as one of the most inventive ever watchmakers due to the wealth and complexity of his discoveries, the native of Canton Neuchâtel, Abraham-Louis Breguet, registered his patent for the tourbillon in 1801. Containing a wealth of information, this document describes the operating principle of the complication and even provides an illustrated version of the system. This technical drawing shows an escapement placed at the centre of the carriage, an arrangement that would be taken up by generations of watchmakers as a reference in the field. Nonetheless, the document in no way states that this particular layout must be abided by at all costs, which means it provides scope for a different interpretation, providing the function is adhered to.

Blancpain took intelligent advantage of this opportunity by unveiling an original movement in 1989, equipped with the world's thinnest-ever flying tourbillon. The news made a profound impact on the world of Haute Horlogerie purists. So accustomed were they to seeing this complication in the configuration suggested by Breguet, that the most traditional among them simply could not accept this alternative vision, which they incorrectly described as a karussel. Blancpain had achieved the master stroke of giving a new face to the tourbillon, while keeping its function intact.

### **2008: the Carrousel Volant Une Minute**

With its Carrousel Volant Une Minute located at the centre of the mechanism, Blancpain once again redefines the characteristics of an ancient innovation. When Bahne Bonniksen invented the karussel, he was mostly interested in offering an extremely accurate pocket-watch with a very reasonable production cost. Once his discovery was patented, several of his watches won various chronometry prizes. Nonetheless, the very nature of his invention with the large number of components it comprised did not actually help to keep costs down. Moreover, Bonniksen was not at all concerned with the rotation speed of the carriage.

Watchmaking connoisseurs would doubtless have totally forgotten this ultra-rare complication if Blancpain had not decided to give it such a superlative new lease on life. Just as it had done with the tourbillon, the Manufacture in Le Brassus kept the function as such, while seeking to fundamentally improve it.

As the world's first karussel wristwatch, Blancpain's innovation consists first and foremost in its capacity to miniaturise this extremely complex mechanism. Another major innovative feature lies in the fact that the Blancpain watchmakers poured all their expertise and all their inventive abilities into placing the balance of this karussel at the very centre of the carriage. Finally, Blancpain's Carrousel Volant Une Minute features an exclusive differential gear system that precisely controls the rotation speed of the carriage. By performing a complete revolution in one minute, this new world-first calibre heralds a whole new line of timepieces.

Above and beyond the technical challenges, the Manufacture from Le Brassus is taking an amusing revenge on history. Whereas several self-proclaimed specialists explained in 1989 that Blancpain's tourbillon was in fact a karussel (due to its off-centred balance), they also stated in no uncertain terms that the central position of the balance was the very signature of a tourbillon. The Manufacture Blancpain is therefore all the more delighted to present its undeniable karussel with a balance... at the centre of the carriage! Watchmaking textbooks will need to be adjusted in this respect!

## **THE BLANCPAIN CARROUSEL VOLANT UNE MINUTE**

A truly prodigious horological construction, the Carrousel Volant Une Minute by Blancpain takes its place on the watchmaking stage as a genuine alternative to the tourbillon. The first ever wristwatch karussel, it is surprising not only by its construction with the balance at the centre of the carriage, but also by its size/power-reserve ration which makes this Blancpain timepiece the most high-performance karussel ever made. The fruit of lengthy and in-depth endeavours, this newcomer to the catalogue of the Manufacture from Le Brassus does not belong to any existing family. The brand has therefore left it a place all its own, aside from the historical collections on which it has built its reputation.

Calibre 225 is a 262-part, 36-jewel movement featuring a balance with screws and a flat balance-spring. Driving the hour, minute, seconds and date functions, it houses a flying karussel performing a complete rotation in 60 seconds. This mechanical self-winding calibre, beating at a frequency of 21,600 vibrations per hour, is endowed with a 100-hour power reserve. The date is adjusted by means of an exclusive under-lug corrector system developed and patented by Blancpain. Thanks to a pusher located beneath one of the case lugs at 10 o'clock, the wearer can adjust the date at the press of a finger. This aesthetic and practical under-lug correct guarantees optimal user friendliness and particularly easy handling.

The semi-skeletonised dial reveals the intricate ballet of the toothed wheels and the pure architecture of the hand-bevelled bridges and plates. The dagger-shaped hour and minute hands, partially hollowed and tipped with a Superluminova coating, mark off the time on a railtrack composed of bevelled hour-markers and slender black lines. At 12 o'clock, a "light shaft" reveals the karussel in all its complexity. This elaborate stage-setting accentuates the shapes of the carriage, on which one of the bridges is shaped like a hand to indicate the seconds. The power-reserve level is displayed at 6 o'clock by means of a hand moving over a scale running from the sign "+" to "-". At 9 o'clock, the date is shown by a semi-circle also hugging the side of the dial. An ingenious system consisting of a double hand with two hands of different lengths provides a staggered read-off of the latter. The name "Blancpain" appears at 3 o'clock thereby ensuring a perfectly balanced overall visual effect.

To underscore the exceptional nature of the Carrousel Volant Une Minute, Blancpain has created an exterior worthy of its technical qualities. The 43.5 mm-diameter case, an unprecedented size in the brand universe, has been crafted from 950 platinum, the most precious of all metals and one of the hardest to fashion. Its restrained design and its generous size impart an aura of strength and elegance. The crown is fluted and stamped with the Blancpain logo, while the black crocodile leather strap is fitted with a folding clasp in 950 platinum.

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Annexe

## **BREGUET'S IDEA AND THAT OF BONNIKSEN**

As early as 1770, faced with the difficulty of eliminating the causes of the flaw in the balance poising, Breguet had the brilliant idea of multiplying the causes in order to eliminate the effects. To achieve this, he conceived a means of mounting the entire escapement on a tiny platform that spun on its axis in one, four or six minutes. The flaws were thus repeated in one direction or the other at regular intervals, thereby cancelling each other out. The gain or loss sustained during one half-turn of the platform was automatically compensated for by the gain or loss sustained during the following half-turn. Breguet described this principle in several memoirs written between 1779 and 1800, but it was on June 26<sup>th</sup> 1801 that the French Ministry of the Interior granted him the patent that gave him the sole right to build this type of watch during a 10-year period. The Breguet patent explains that, in a tourbillon regulator, whatever the type of escapement, whether of the lever or detent type, the escape-wheel is driven by the mobile carriage, which means that the latter is an integral part of the gear train. The balance also performs a revolution along its oscillation axis. In other words, the pivoting point of the Breguet balance is located firmly in the centre of the carriage – which is precisely the case for Blancpain's karussel...

Almost a century after Breguet, the London-based Danish horologist Bahne Bonniksen (1859-1935) set himself the goal of responding to a specific demand of that time: to create an extremely accurate pocket-watch that would cost less to make than a tourbillon. In 1892, he filed a patent for a watch that he named a karussel because of its rotating balance. The time taken to perform this rotation was of little importance to Bonniksen, some of whose watches were to win official observatory chronometry prizes. While the objective of accuracy was indeed achieved by Bonniksen's karussel, that of a more affordable price than the tourbillon proved a far tougher proposition. The Dane believed that the karussel would take less time to adjust, but the fact that it comprised far more components led to other difficulties. That was doubtless partly why the karussel was long neglected and disparaged – not to mention the fact that it was no easy feat to vie with an invention by the brilliant Breguet, official Court watchmaker!

Today, the karussel's return to centre-stage thanks to Blancpain's innovations should enable this function to regain its legitimate status and to demonstrate its authentic complexity. A complexity even more apparent in this innovative interpretation introduced by the Manufacture from Le Brassus, involving mastery of a differential gear system to succeed in rotating the carriage every 60 seconds.

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