F.P.JOURNE

Invenit et Fecit

Master-watchmaker and inventor

A passion for horological science

It is with an artist's sensitivity that François-Paul Journe explores the measurement of time to satisfy his need to be creative; and as a demanding technician that he innovates by devising exclusive watch mechanisms. From his earliest years, watchmaking has been an integral part of his life. It was in his native city of Marseille that he began training at the watchmaker's school at the age of fourteen. Little by little, he discovered the scope and wealth of horological science, which would prove capable of satisfying both his curiosity and his creative vitality. However, the full revelation of his vocation came in Paris where he completed his studies before training with his uncle. The workshop of this eminent antique watch and clock restorer was located at the heart of the craftsmen's district in Saint Germain-des-Près and a first-rate clientele entrusted him with the finest collections. It was here that François-Paul Journe thrilled to the discovery of the most striking achievements in the history of watchmaking and retraced the intellectual and philosophical paths taken by those who had conceived and crafted them: scientists, inventors or master-watchmakers. He experienced the privilege of entering the mechanical heart of some exceptional creations that were to set his own heart beating for years to come! The youthful watchmaker explored what he still views as "the golden age of watchmaking": the 18th century. Abraham-Louis Breguet, Antide Janvier and some other talented masters of time triggered his first deep-felt horological emotions. Fascinated by what these men were able to accomplish with the means at their disposal, he began the construction of his first tourbillon pocket-watch at the age of twenty. His need for independence led him to set up his craftsman's workshop on the rue de Verneuil, where he received visits

from a select circle of informed collectors who commissioned him with making some one-of-a-kind creations. The many watch awards he received encouraged him in his single-handed task of research and development.

Quite soon the great names in the world of luxury and watchmaking called upon his talents to develop and create innovative movements. He designed and crafted mysterious clocks, "sympathique" clocks (see page 14) and subtle mechanisms for unique Haute Joaillerie creations. Increased demand emanating from Switzerland led him to develop a Manufacture dedicated to building movements for various brands. He thereby placed his historical and technical knowledge as a watchmaking design-engineer in the service of industry. Nonetheless, his secret desire remained to be able to offer contemporary timekeepers, based on a technical interpretation that could rightly claim to be both authentic and innovative, to a broader public. Three years ago, he created a collection of wristwatches signed F.P.Journe with the Latin wording – Invenit et Fecit –, meaning "invented and made", thereby certifying that each of the watches carrying his name results from an entirely original conception and rigorous craftsmanship. They were soon to establish themselves as world firsts, thanks to their technical originality and degree of performance.

François-Paul Journe perpetuates the long history of watchmaking and pays tribute to the Age of Enlightenment, by pursuing and extending the most decisive research in the unique science and craft represented by the measurement of time. He has become a subtle link between the watchmaking of yesterday and that of tomorrow.

A passion for horological science

1976 > Graduates from the Ecole d'horlogerie de Paris

1978 > Begins a period spent in his uncle's antique watch restoration workshop

1982 > Completes his first tourbillon pocket-watch

1985 > Sets up his first workshop on the rue de Verneuil, in Paris

1985 > Creates a planetary pocket-watch

1987 > Creates the "sympathique" clock for Asprey's of London

1987 > Prize awarded by the Fondation de la Vocation Bleustein-Blanchet

1989 > "Balancier d'Or" Prize awarded at the Watchmakers Convention in Madrid

1989 > Establishes a movement Manufacture in Switzerland

1994 > "Gaia Watchmaker of the Year" award from the Musée de l'Homme et du Temps

1996 > Creates TIM SA in Geneva, devoted to developing exclusive calibres in the service various brands

1999 > Launches a collection of chronometers signed F.P.Journe – Invenit et Fecit –, distributed by Montres Journe SA, Geneva

1999 > Presents the first tourbillon wristwatch with remontoir

2000 > Invents the first resonance wristwatch

2001 > Introduces the first F.P.Journe automatic movement: the first in the world to ensure precision timekeeping performances for full five days when not worn

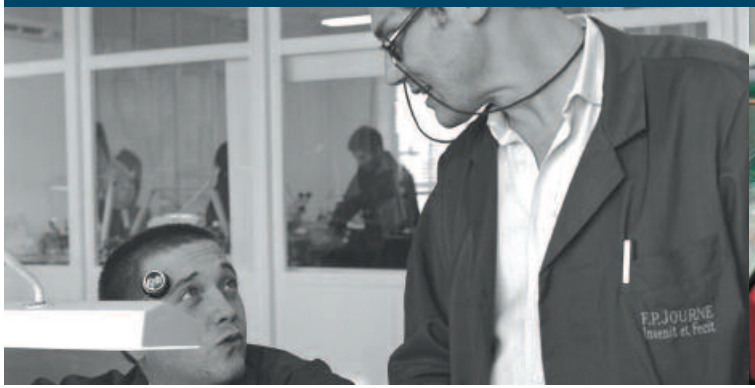
2001 > Associates with the famous American company Harry Winston in creating eighteen exceptional one-of-a-kind creations constituting the Opus One collection

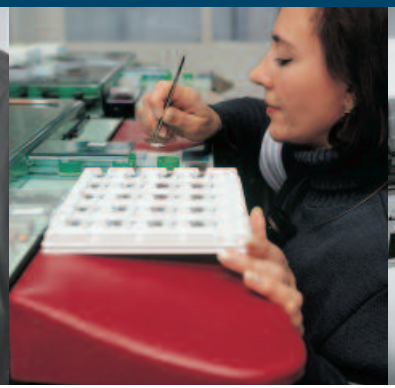
2002 > Acquires the first item in the collection of Montres Journe SA: the resonance regulator made around 1780 by famous French watchmaker Antide Janvier.

F.P.JOURNE · INVENIT ET FECIT

A brand that is building its history

Invenit et Fecit






It is with the cooperation and professionalism of dedicated watchmaking enthusiasts that François-Paul Journe is creating the structure that will enable him to give shape to his vision of contemporary watchmaking. Active within Montres Journe SA, they enable the brand to enjoy total independence in development. Through this new expression of watchmaking, François-Paul Journe pays tribute to chronometry above all else! Behind all of his research and inventions lie the thirst for challenge and the demands of precision. For this uncompromising individual, the construction of a new mechanism is only worthwhile if it serves to enhance the running of the watch. However spectacular his horological acrobatics, they must above all be placed in the service of greater precision. He wants his watches to be stylish, unique, technically innovative yet resolutely functional. While they may boast their status as world firsts thanks to their technical feats, they also provide a level of reliability and wearer comfort that is unparalleled in the world of mechanical watches.
This rigorous watchmaker simply could not imagine using a movement built by anyone else. In order to confirm his professional and intellectual integrity, François-Paul Journe places an eloquent label on each of his creations: – Invenit et Fecit – (invented and made), guaranteeing the authenticity of its conception and realisation. It is also a nostalgic allusion to the 18th century during which many watchmakers and artists thereby certified the authenticity and the place in which their works were created. Production of F.P.Journe – Invenit et Fecit – chronometers is inherently limited by the authenticity of its calibres and the fact that they are made in the brand's own workshops. The resulting wristwatch collection is based on a subtle balance between craftsmanship and industry.


F.P.JOURNE
Invenit et Fecit
40

From one-of-a-kind creations to an exclusive collection

Building on his skills as a watch design-engineer, François-Paul Journe is capable of making each of the parts composing a timekeeper. That is exactly what he did for many years, alone in his Parisian workshop. In 1978 he began work on his very first complete watch: a tourbillon pocket-watch with spring detent escapement, which he completed four years later. In 1983 François-Paul Journe began his research into the principle of the remontoir, thereby paying homage to the most brilliant 18th century horological interpretations. This resulted in two tourbillon pocket-watches with remontoir. He was fascinated by another phenomenon, that of resonance, and the brilliant related achievements by famous watchmakers such as Antide Janvier and Abraham-Louis Breguet. Based on this principle, in 1984 he made his very first resonance pocket-watch, but which did not run as well as he had hoped. Collectors began to take an interest in the work of the youthful watchmaker and ordered customised watches. The following year, he completed a pocket-watch with planetary movement.

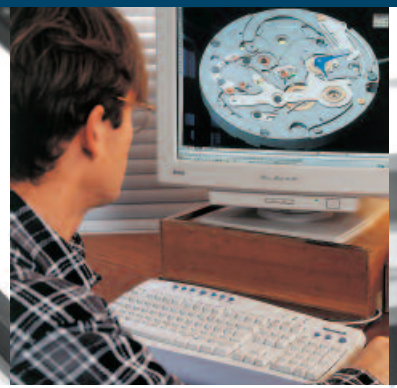
His sixth creation was an automatic pocket-watch chronometer with fusée and chain, housing a five-second remontoir and a detent escapement. The rock crystal dial revealed the mechanism of the retrograde perpetual calendar with equation of time indication, inspired by the famous watch ordered from Abraham-Louis Breguet (†1823) for Marie-Antoinette.

In tribute to the new century, François-Paul Journe created the Sonnerie Souveraine in 2000. Composed of almost five hundred parts, it included the following technical characteristics: grand strike, minute repeater, retrograde minute indication as well as indication of grand strike, small strike and strike-silent. Power-reserve of thirty-six hours. One-of-a-kind creation. Private collection.

From one-of-a-kind creations to an exclusive collection

The famous House of John Asprey's of London called upon his services to match the wishes of demanding customers accustomed to the most spectacular and exceptional creations. This inspired him to develop the "sympathique" clock: a complex and subtle invention incorporating a pocket-watch placed in a recess in a table-clock, enabling the two mechanisms to run "in sympathy". It was crafted in rock crystal and pink coral with the assistance of the finest jewellers in Paris.

This masterpiece is made up of more than three thousand pieces of coral in ten different colours, with a rock crystal glass and 18-carat gold cabinet. Each component of its mechanism was entirely fashioned by hand and the pocket-watch is a minute repeater.

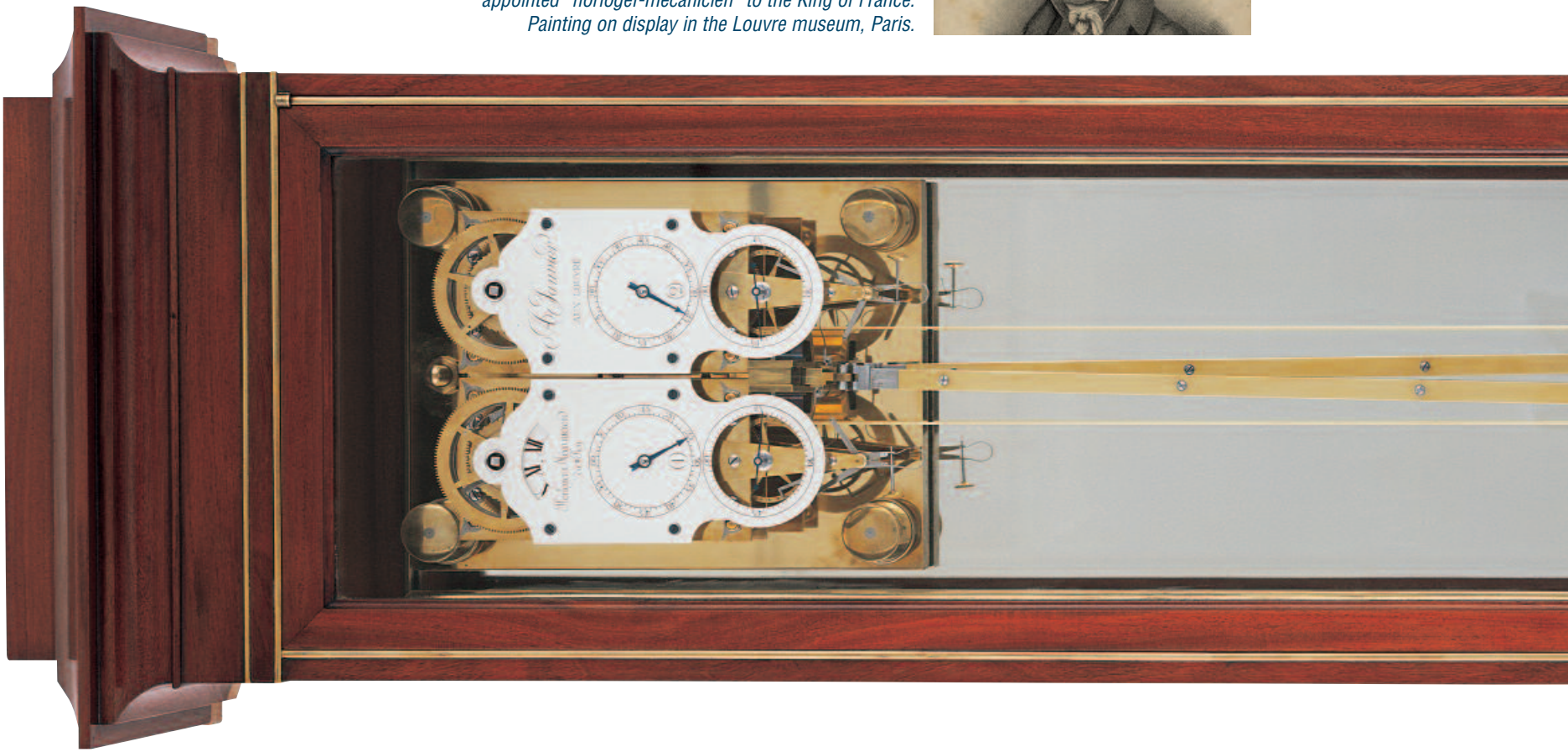


To launch his chronometer collection signed F.P.Journe – Invenit et Fecit –, François-Paul Journe had to adapt his expertise as a "made-to-measure" craftsman to the industrial process. This means that each part of a calibre he invents is already clearly represented in his mind before he draws it on technical plans using the most advanced software tools. He then "dissects" the movements he invents to ensure that each component may be made in accordance with his own demands. Nonetheless, his creative and inventive intellectual approach remains identical, whereas the actual manufacturing process as changed quite considerably, since it now involves many different craftsmen.

Loyal to his governing passion, François-Paul Journe creates mechanisms essentially aimed at enhancing the running of a watch and he draws upon the full range of his creative skills and historical knowledge to achieve this. Such constant dedication to research and devotion has thus far been confirmed by all models in the F.P.Journe – Invenit et Fecit – collection, each a world first.

Resonance regulator

Antide Janvier (1751-1835)
appointed “horloger-mécanicien” to the King of France.
Painting on display in the Louvre museum, Paris.



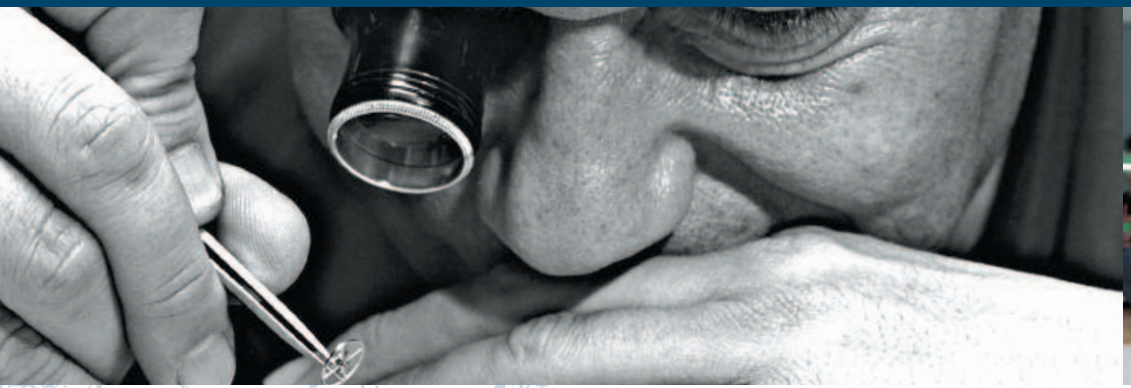
Resonance regulator by French watchmaker Antide Janvier, dated circa 1780. It inspired François-Paul Journe's research into this phenomenon, culminating in the creation of the first wristwatch resonance chronometer, the second model in the Souveraine F.P.Journe – Invenit et Fecit – collection.
Montres Journe SA, Geneva – Collection

LES ATELIERS

The workshops

For each watch its own watchmaker

It is hardly surprising to learn that the team of watchmakers are driven by a shared motivation: a return to a full-fledged watchmaker's work. In an increasingly segmented industry, few watchmakers have the opportunity to create a watch from start to finish and even less are able to follow its destiny. In the workshops of François-Paul Journe, the watchmakers who have chosen to associate with him are all inspired by a common purpose: to pursue their training and hone their skills by working with new, exclusive and technically innovative calibres. All are keenly aware that more new introductions will be forthcoming and that technical challenges and learning experiences will be their daily lot. Each watchmaker is responsible for making a specific watch, according to his professional affinities and above all his technical sensitivity. His mission will be to perform all stages in assembling the watch: fitting the exclusive F.P.Journe movement, the often delicate rating process, casing-up and testing before submitting it to the "boss" for an ultimate check. Much like a cardiologist, a watchmaker becomes acquainted with the slightest reactions and vagaries of the mechanism which are so inherent to mechanical watches. Somewhat like a "godfather", if one considers the design-engineer as the father, he becomes responsible for each watch for the guarantee period following purchase.



Each stage is carefully recorded and enables a precise review of all the watchmaker's gestures. It is a real privilege for these passionately dedicated watchmakers to follow the career of the watches they make. Each of them carries with it the secret of the number of hours the watchmaker has spent with it and thus acquires a unique dimension. It is imbued with the sense of companionship of which only its "godfather" can bring back the memories when meeting it at a later date. If necessary, he will find the means to restore his protégée to its initial radiance and ensure that its heart is as young as when they first parted!

Exclusive characteristics

The chronometers in the Octa collection are fitted with a **22-carat barley-corn** guilloché oscillating weight.

Each F.P.Journe – Invenit et Fecit – chronometer is engraved with its **individual number** on the case-back.

The platinum folding clasps or tang-type buckles are personalised with the brand logo

Chronometers by F.P.Journe – Invenit et Fecit – possess a powerful aesthetic identity. They reflect a new vision of contemporary watchmaking. Their designer, who is above all a master-watchmaker, wanted simple, companionable and yet spectacular watches. They are worthy descendants of round pocket-watches, since there was never any question for François-Paul Journe of playing with shapes when the essentials are housed within the very heart of his exclusive movements. Nonetheless, he wanted his chronometers to provide the indispensable information at first glance. The guilloché silver hour and minute dials are screwed by means of a patented system to the right-hand side of the 18-carat gold watch face for discreet read-off.

In the collection by F.P.Journe – Invenit et Fecit – the dial reveals the most hidden secrets of the mysterious mechanical gear-trains. Thanks to his own dial-makers' workshop, François-Paul Journe need make no concessions and can allow his imagination to roam freely. His dials are the authentic faces of his watches and their elegant features do far more than simply showing the time. Instead, they reveal the heart of each watch for all to admire.

The F.P. Journe patented **ultra-thin large date display** consists of two concentric discs carrying the numerals encircled by a driving wheel to ensure admirable readability.

The personalised blued steel hands indicate the hours, minutes and seconds as well as the power-reserve.

All crowns on watches by F.P. Journe – Invenit et Fecit – are stylised by means of an individually created knurling effect.

All chronometers in the Souveraine and Octa collections house an **exclusive large-size four-arm balance**, providing enhanced precision rating stability.

The two-part case in solid platinum or rose gold, ensures a comfortable fit. It is secured to the wrist with a metal bracelet or a hand-stitched crocodile leather bracelet.

The Souveraine collection is made up of exceptional
mechanical creations. They result from horological challenges
taken beyond established limits, in an absolute tribute to chronometry.
Their innovations and performances establish them as world firsts.

COLLECTION SOUVERAINE

Tourbillon Souverain
Chronomètre à Résonance

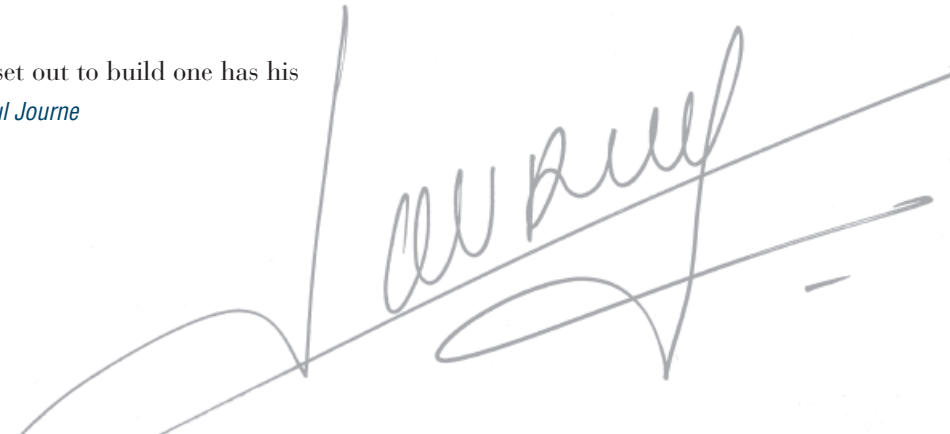

Remontoir d'Egalité
0 10 20 30 42
Invenit et Fecit
F.P.JOURNE

TOURBILLON SOUVERAIN

"From ancient times, humankind has constantly attempted to measure time by dividing it into equal fractions and inventing the notion of isochronism! Only with the arrival of the first mechanical clocks did specialists begin to seek a means of equalising the force reaching the escapement. The balance-spring did not yet exist and the so-called "foliot" balance had an irregular beat due to the arrival of a force varying because of the imperfections of the gearing. At the time, clocks were equipped with just one hand which completed a revolution once every 12 hours, since their degree of imprecision did not permit the measurement of minutes.
After the invention of the mainspring, which would enable the construction of table-clocks, a 16th century watchmaker Jobst Bürgi had the idea of adding an extra gear representing an independent system wound in short spurts by the mainspring. The escapement thus ensured a more constant flow and enabled an autonomy of several months: this was the first remontoir!
Later, a 17th century Dutch watchmaker, Christiaan Huygens invented the balance-spring and the pendulum. These innovations would give both clocks and watches an unprecedented degree of precision timekeeping. The minute hand became widespread and the remontoir fell into oblivion for around a century. With the arrival of the 18th century, known as the Age of Enlightenment, the high requirements relating to astronomical observations and calculations of longitude for maritime navigation called for ever higher levels of precision. As new technical solutions were found, the seconds hand became a common feature on watches of the period. In England, Thomas Mudge invented a remontoir for the H.3 marine chronometer, while famous French watchmaker Robert Robin – Watchmaker to the King – also invented one for his precision regulators. Paradoxically, it was in the 19th century that the remontoir became widely used in the construction of clocks intended for buildings, not to remedy any flaws in the springs (since all these clocks ran by driving-weights), but to isolate the time mechanism from the outside hands. This was because the latter were exposed to strong winds and might disturb the mechanism.

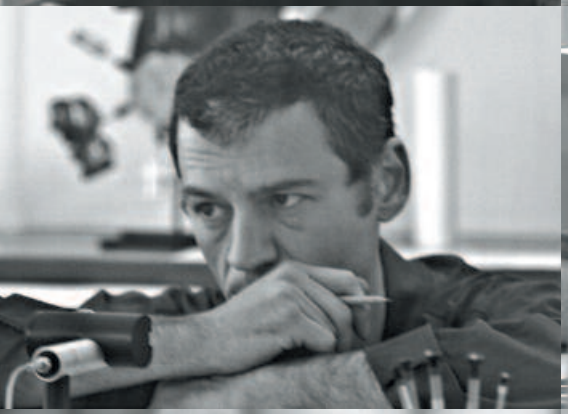
Nonetheless, making a remontoir was a complex and tedious task, causing it to be almost entirely abandoned in the 20th century, apart from a few rare exceptions: English watchmaker Georges Daniels used it in a tourbillon pocket-watch; his contemporary Anthony Randall built it into a table-clock based on the principle of John Harrison's H.4; and I myself have incorporated it into three tourbillon pocket-watches, a so-called "sympathique" clock and more recently for the very first time in wristwatch form with the first model in the F.P.Journe – Invenit et Fecit – collection, the Tourbillon Souverain.

What is fascinating in the remontoir principle is that each watchmaker who has set out to build one has his own personal interpretation: only the basic idea remains the same." *François-Paul Journe*













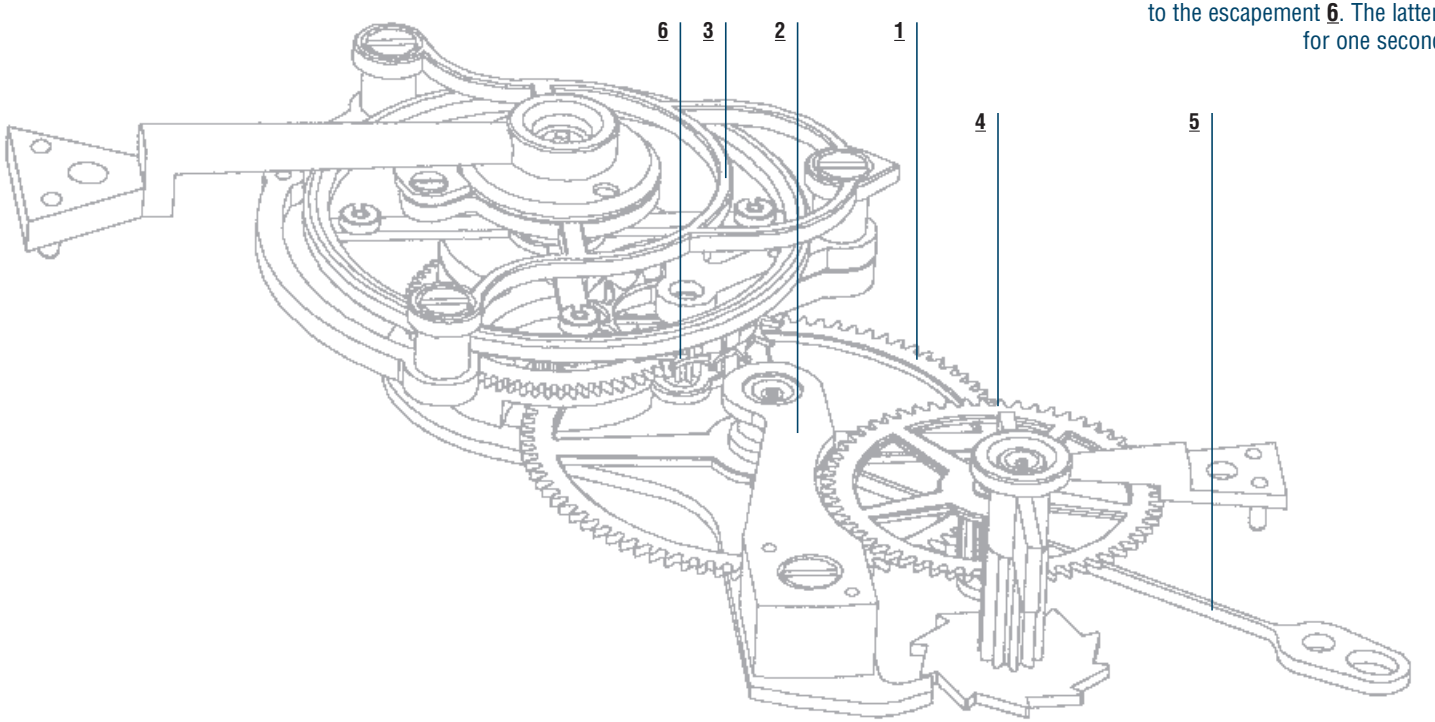

Intense concentration

In the workshops of the *Tourbillon Souverain*, the watchmakers' intense concentration calls for silence. Repeatedly assembling and dismantling the mechanism in order to achieve complete satisfaction is a daily exercise. Since the tourbillon carriage alone is made up of more than fifty parts, each gesture requires extreme delicacy and unfailing perseverance.

The invention of the tourbillon is one of the finest achievements of the 18th century. It served to restore the equilibrium of escapement parts and to maintain the stability of rating when the watch was in vertical positions. By developing the first tourbillon wristwatch with remontoir. the Tourbillon Souverain, François-Paul Journe took his place in the history of chronometry and paid tribute to a superb invention. This unique creation expresses its creator's talent and endows the watch with hitherto unparalleled technical characteristics in terms of precision. A remontoir, whose system might be compared with that of a dam regulating the flow of water by providing constant energy to the blades of a generator, regulates the pressure of the escapement and ensures excellent stability of rating. The inertia-blocks of the 4-arm balance are adjustable and make it possible to adapt the radius of gyration to achieve optimal precision. It oscillates at a frequency of 21 600 vibrations per hour. This tourbillon quite literally establishes itself as sovereign among its counterparts and constitutes an original and functional interpretation of the remontoir used in a wristwatch.

Tourbillon Souverain

The remontoir is made up of a constant-force satellite wheel **1** mounted on a lever **2** pivoting concentrically around the tourbillon carriage **3**. This lever stops the going-train **4** which transmits the force of the mainspring, while the remontoir blade-spring **5** imparts its energy to the escapement **6**. The latter then releases the satellite wheel for one second and the remontoir blade-spring is rewound by the going train.




Tourbillon Souverain
F.P. JOURNE
Inv. Fecit
F.P.JOURNE
CHRONOMETRE A TOURBILLON


Remontoir d'Egalité
0 10 20 30 42
Invenit et Fecit
F.P.JOURNE

CHRONOMETRE A RESONANCE

"I will try to explain the historical reasons that led me to build such or such a watch. As far as the resonance phenomenon is concerned, the intuition that energy is dissipated without being lost goes back to the 18th century and the research performed by the great chemist Lavoisier, who stated in his famous theory which highlights my modest explanations: "Nothing is lost, nothing is created, everything is transformed". With the invention of the pendulum, watchmakers noticed that their beat often interfered with their environment and it was not unusual for a pendulum clock to stop of its own accord when the pendulum entered into resonance with the driving-weight suspended from its cords. The brilliant watchmaker or "mechanical engineer" as he described himself, was the first to have the feeling that one might turn this disadvantage into an asset: Antide Janvier, born in 1751 in St Claude, France. His idea was to build two complete movements with two precision escapements and to place them close to each other, ensuring that the two pendulums were hanging from the same construction. Just as he imagined, the pendulums recovered the energy dissipated by each other and began to beat together, thus entering into resonance.

Maintained by this wave and thus protected from outside vibrations, this principle considerably enhanced their precision. About 1780, Antide Janvier built two precision regulators, one of which is preserved at the Paul Dupuy museum in Toulouse and the second in the private collection of Montres Journes SA, Geneva (see pages 14/15). A third desk-top regulator is kept in the Patek Philippe Museum in Geneva. Thirty years later, Abraham-Louis Breguet built a resonance regulator for Louis XVIII, King of France, which is now part of the collection of the Musée des Arts et Métiers in Paris; and a second for the King of England, Georges IV, which is housed in Buckingham Palace. He also made a pocket-watch based on the same principle for each of these illustrious figures. To my knowledge, no-one else in watchmaking took any further interest in this fascinating physical phenomenon!

The advantages of this phenomenon in terms of precision led me to pursue my own personal research and attempts which, after fifteen years, enabled me to adapt it to a wristwatch for the second model in the Souveraine collection: the Resonance Chronometer. I felt that this resonance system was particularly well suited to the various wrist movements that subject watch mechanisms to repeated jarring which is detrimental to their smooth running."

François-Paul Journe


30/99-01
F.P. JOURNE
RESONANCE
Inv. Fecit

Keith Jarrett

© Patrick Hinely, Work/Play

"According to my experience, resonance involves all fields. This is particularly obvious in music. Lutes and sitars, for example, have strings whose only reason for existence is to vibrate by resonance; the musician never touches them, despite their proximity to the strings that are plucked. In life itself, as in mechanical systems, resonance occurs at each moment. I remember the day I first noticed that the same music resonated differently when different people were present in the same place. The closer two systems are to each other, be they mechanical, musical, human or other, the more they are interact or may be said to be in resonance. The closer two lovers feel, the greater effect they have on each other. In a similar manner, the closer two opposites are brought, the more strongly they repulse each other. It is already some time since people realised it is possible to change the sound coming from a set of sound equipment simply by modifying its resonance. The sound emitted by an apparently inert object (such as an amplifier) may fundamentally change according to the material on which it is resting, or the density of objects placed on its upper part. Moreover, it seems perfectly possible to increase (or detract from) the precision of a mechanism by using the resonance of another mechanism placed close enough to have the desired effect on the first. They might be said to be working in tandem, mutually controlling each other, in much the same way as what you experience when you are accompanied by just the right person when listening for the first time to the sound of a recording you have just made."

Keith Jarrett, February 2002

“Nothing is lost, nothing is created; everything is transformed”

Their gaze riveted on the electrocardiogram of the mechanical hearts, the watchmakers in the *Chronomètre à Résonance* workshops are alert to the slightest hitch in the smooth running of their protégés. Ensuring the magical harmony between the two movements making up this unique creation calls for subtle and eminently rigorous rating in more than six positions!

From the age of twenty-one, François-Paul Journe began his first research into the effects of resonance in the watchmaking field. This phenomenon had attracted several great 18th century watchmakers but had subsequently been abandoned for almost two centuries. Admiring and passionately interested in this topic, the young watchmaker shared his discoveries with a friend, a metallurgical engineer in the French navy who was himself confronted with the detrimental effects of this physical phenomenon. He made a first resonance pocket-watch, but which did not work as well as he had expected. In due time, however, his experience and constant dedication to research led François-Paul Journe to present a creation that is unique in the history of horological science: the first resonance wristwatch.

For the very first time, a mechanical movement is designed, developed and built to meet the demands of wear on the wrist.
But what actually is the resonance phenomenon? Two frequences which harmonise. Any animate body transmits a vibration to its environment. When another body picks up this vibration, it absorbs its energy and begins to vibrate at the same frequency. The first is called the “exciter” and the second the “resonator”. This physical phenomenon known as “resonance” is an integral part of our daily life and yet we hardly even notice it. When we are looking for a programme on a radio, it crackles until the chosen wavelengths meet those of the transmitter: only then do they harmonise to begin resonating together!



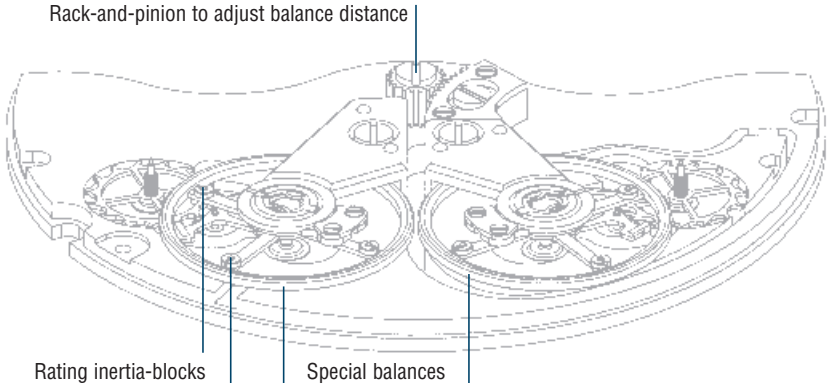









Chronomètre à Résonance



In the case of the resonance wristwatch created by François-Paul Journe, each balance alternately serves as exciter and resonator. When both balances are in motion, they reach a state of "sympathy" through the effect of resonance and began to beat naturally in the opposite direction. The two balances therefore support each other, giving greater inertia to their movement. This harmony is only possible if the difference in frequency between the two is no more than five seconds per day accumulated in 6 positions. Adjusting them is an extremely delicate task. While an external disturbing movement affects the running of a traditional mechanical watch, in the case of a resonance watch this same disturbance has the effect of accelerating one of the balances and slowing down the other. Little by little, the two balances come back together to reach a point of agreement and thereby eliminate the disturbance. This innovative chronometer offers a level of precision that is unrivalled among mechanical watches.

More than a century later, François-Paul Journe payed homage to the research performed on resonance by the greatest 18th century watchmakers, through presenting the first wristwatch chronometer.


N°079/01R
PT950
F.P.JOURNE
Inv. Fecit
RESONANCE


0 10 20 30 40
F.P.JOURNE
Invenit et Fecit
CHRONOMETRE A RESONANCE


F.P.JOURNE
Invenit et Fecit
CHRONOMETRE A RESONANCE

Chronomètre à Résonance

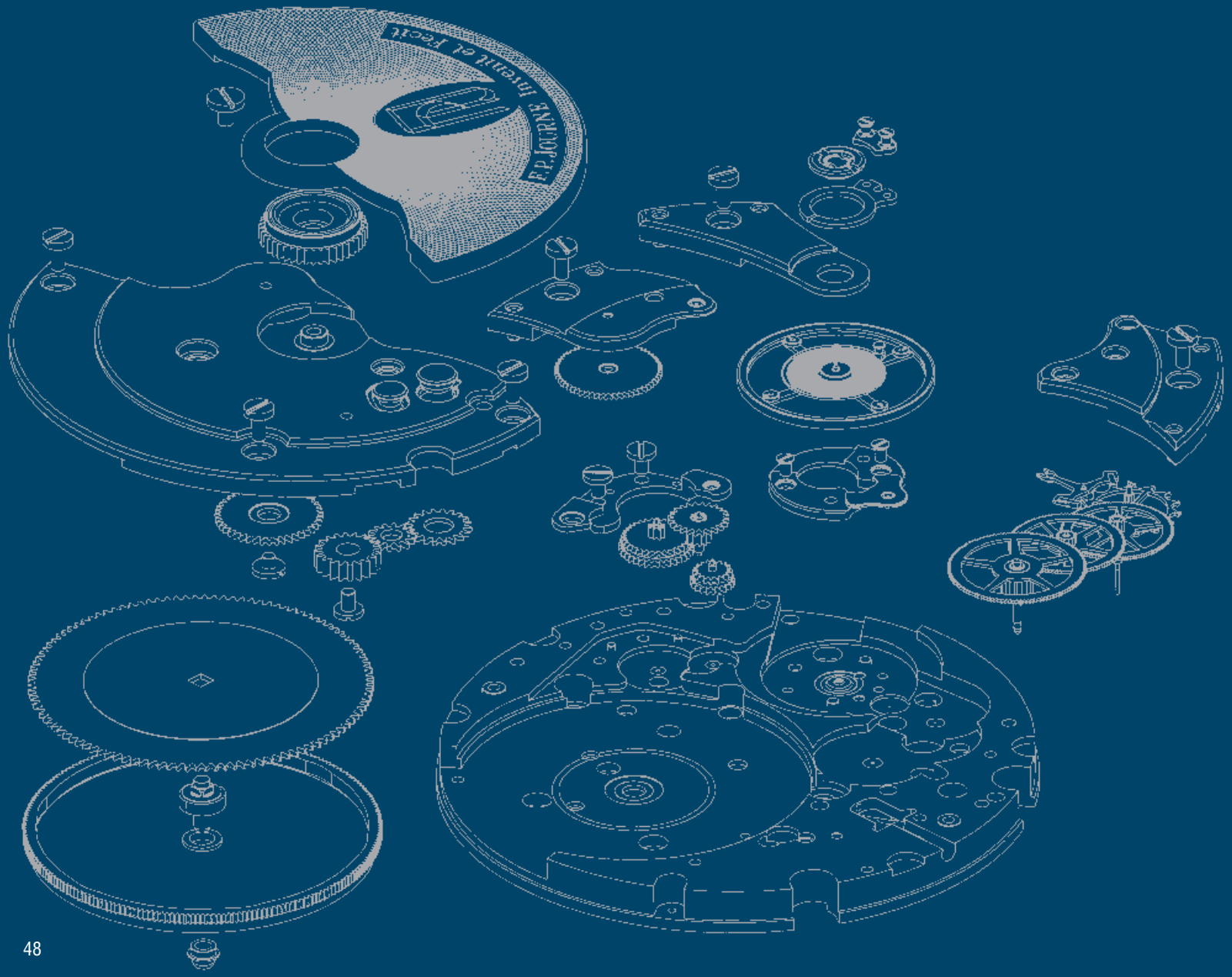
The construction of the Octa calibre was developed on the basis of one of F.P.Journe's most sophisticated inventions: the automatic winding calibre designed to incorporate a variety of complications, without modifying its size. A genuine chronometer, it achieves an optimal balance between force, capacities and efficiency.

COLLECTION OCTA

Octa Réserve de Marche
Octa Chronographe
Octa Calendrier

Octa Réserve de Marche


0·24·48·72·96·120
F.P.JOURNE
Invenit et Fecit
22


F.P.JOURNE Invenit et Fecit

"The construction of the Octa calibre has less powerful ties with the history of watchmaking than do the remontoir or the resonance models, but it nonetheless symbolises an horological ideal of giving timekeepers the highest possible degree of precision and autonomy! Within this context, one may mention Jobst Bürgi, who used the remontoir to achieve three months of autonomy for his clock. One might also note the fact that if church clocks are placed so high, in addition to enhancing visibility, it is mostly because it often took an entire month for the driving-weights to drop the full length of their cords. Many systems were invented to increase the duration of run of a watch, meeting with various degrees of success. Given the small volume of a wristwatch, the spring could not be as large as one might wish. Watchmakers therefore discovered the trick of placing an additional wheel inside the customary gear-train so as to extend the duration of its development. Unfortunately, actually using this system, even with a stronger spring, led them to observe that the energy actually reaching the spring remained low. To compensate for this, they fitted a smaller balance using less energy, but which nonetheless lost a considerable amount of stability. It is therefore not unusual to find that some watches able to run for several days have an extremely unpredictable level of precision.

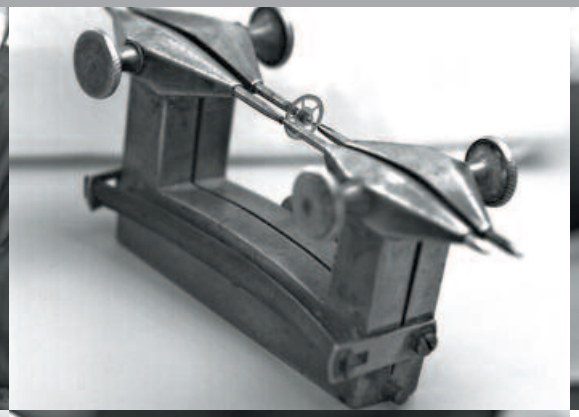
This challenge was a powerful source of motivation! I then imagined that the best and also the most obvious solution to extend the duration of run would be to extend the capacity of the spring development. The difficulty lay in integrating it on the same level as the gear-train and the escapement, due to its size: 1 metre long and 1 millimetre thick. Given the low torque of this spring, I could achieve extremely fast automatic winding (one and a half hours in a Chappuis cyclotest for more than 5 days' running).

With the challenge of autonomy now won through this automatic winding calibre, I then knuckled down to the second challenge of inserting various complications into that same movement: power-reserve with large date display, fly-back chronograph with large date display, retrograde annual calendar, etc.. while maintaining exactly the same size on all models in the Octa collection.

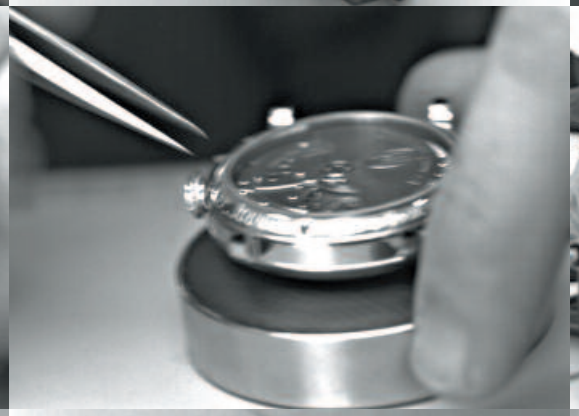
Three years of research and more than two years of development were required before this automatic winding movement that is unique in the world could be presented to the public."

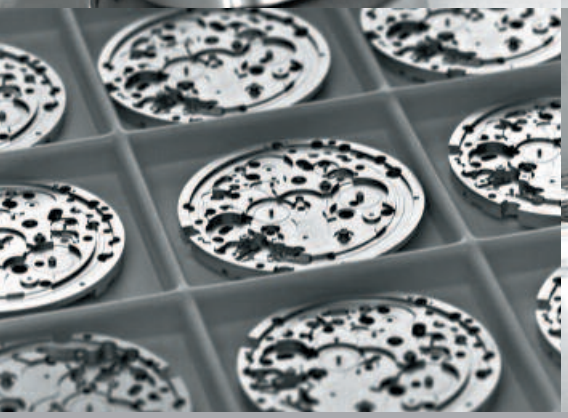
François-Paul Journe












Huile
Huile


How to integrate the future into today's conception

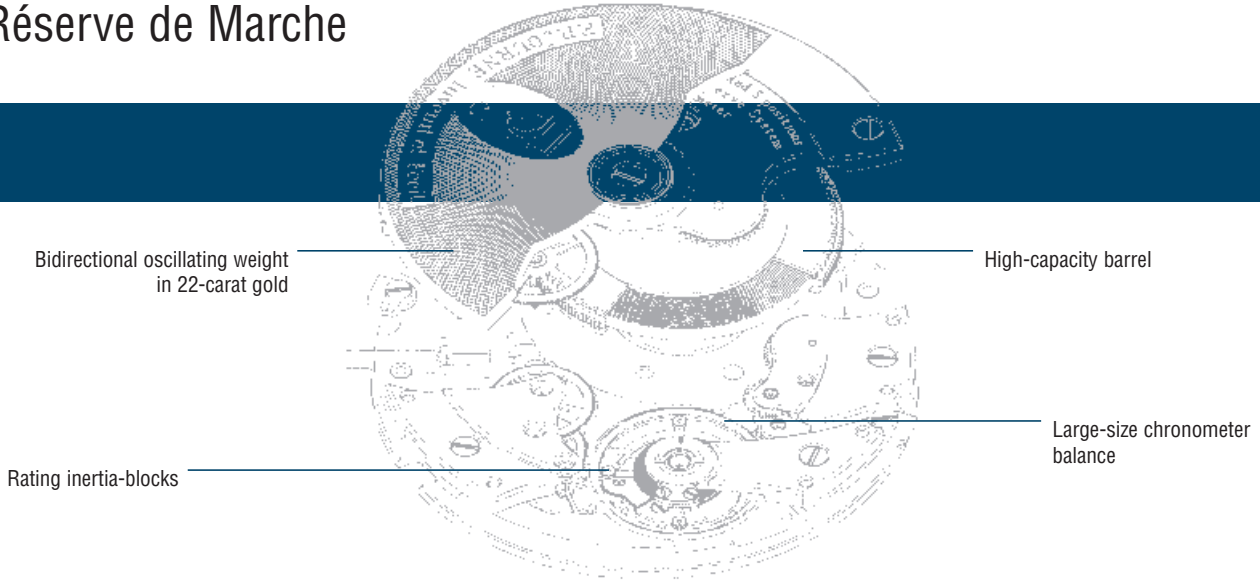
The diversity of complications in the *Octa collection*, integrated within the same calibre, calls for an extremely supple and adaptable mind-set among the watchmakers in this workshop. They must be able to master this new automatic movement "blind-fold", in order to incorporate the various revolutionary-sized technical variations.

When François-Paul Journe decided to create a range of automatic winding wristwatches, he had two main goals: to enhance rating performance and to offer a collection in which all models would have the same dimension, whatever the complication incorporated within it.

Gifted with an exceptional sense of spatial conception indispensable to the construction of such a calibre, François-Paul Journe succed in bringing together these two challenges within the automatic winding Octa calibre. Designed in such a way as to maintain a diameter of 30 mm and a thickness of 5,70 mm, whatever complication is incorporated, it establishes itself as the first automatic winding movement with sufficient power-reserve to ensure precision timekeeping during five complete days (120 hours) off the wrist.

Generally speaking, classically built watches with a long power-reserve suffer from the fact that their small balance is sensitive to shocks and other disturbances on the wrist. François-Paul Journe therefore imagined a compact construction featuring a large-size balance (10.1 mm in the Octa calibre) and a high level of inertia, thereby ensuring great stability. This balance with no index is set to oscillate at a frequency of 21 600 vibrations per hour and is dynamically poised in the five possible positions of the watch. The inertia blocks enable one to advance or delay the balance by changing its effective radius, without interfering with the balance-spring.

Octa Réserve de Marche



This movement provides steady and significant force thanks to a one-metre long spring supplying 850g of torque to the mechanism, with only 25% loss of amplitude when its power-reserve is exhausted. The watch will nonetheless continue to run for around thirty hours after the five days, but without ensuring the same precision timekeeping.
Moreover, its fast winding mechanism designed to ensure high efficiency works in both directions. On a classic simulator (Chappuis cyclo-test), the mechanism is rewound in just one and a half hours. Such a performance should enable the wearer of the watch to maintain sufficient power-reserve merely through day-to-day gestures. Nonetheless, prolonged periods of inactivity will lead to a depletion of the initial amount of energy.

This original and perfectly balanced construction by François-Paul Journe has managed to attain the maximum useful power-reserve for a automatic winding movement, without compromising precision. The Octa calibre is the result of an optimal balance between force, capacities and efficiency; it ensures watches within the Octa collection offer an unprecedented level of reliable precision.


Octa Auto
Pt 950
N°22-01A
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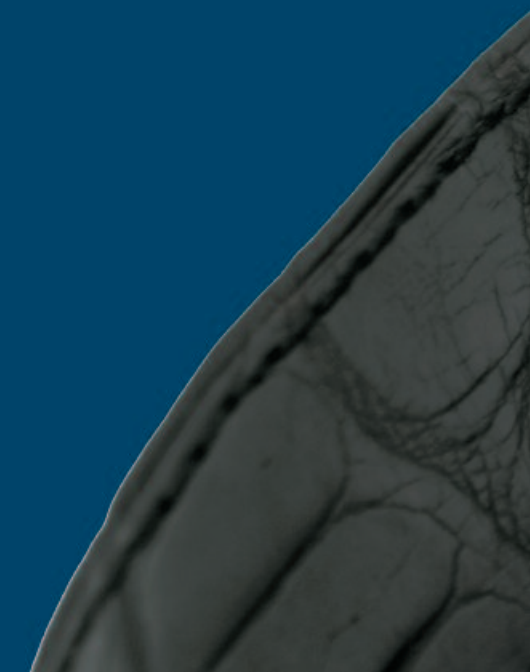
FP JOURNE Invenit et Fecit
Or 22 Carats
22
0·24·48·72·96·120
F.P.JOURNE
Invenit et Fecit

Octa Chronographe




F.P.JOURNE
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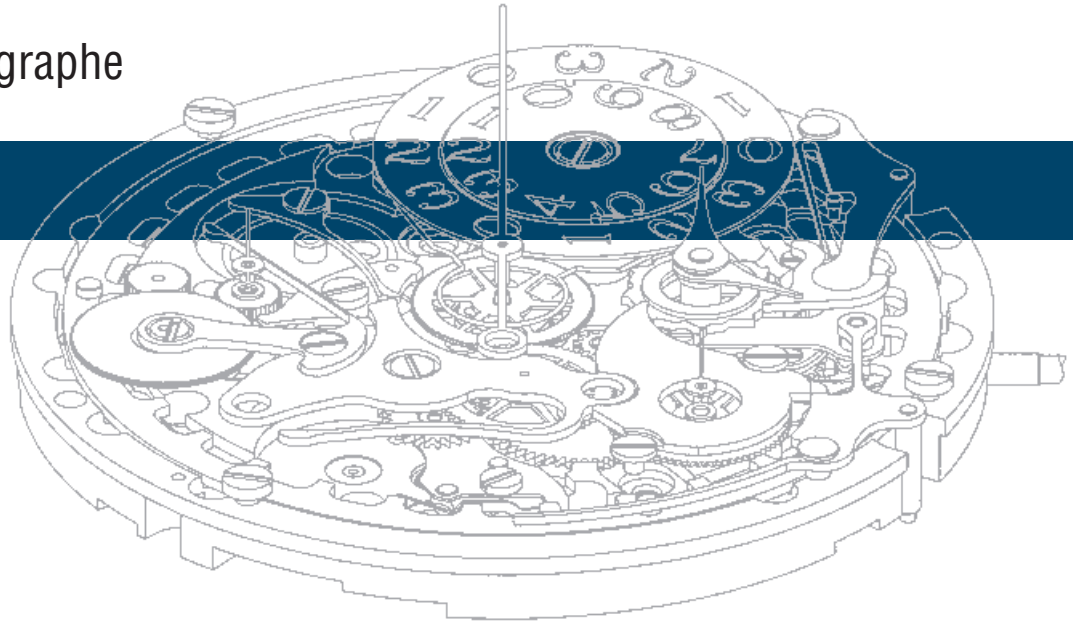
Octa Chronographe



With the *Octa Chronographe*, François-Paul Journe is revolutionising the classical conception of a chronograph. Integrated within the Octa automatic winding calibre measuring 30 mm in diameter and 5,7 mm in thickness, the chronograph is housed in a space just 1 mm thick. This space is also occupied by the concentric large date display discs. To achieve such a performance, François-Paul Journe imagined flattening the usual column wheel to transform it into a cam wheel. This means it is the profiled rim instead of the column which actions the chronograph levers. A single sliding lever returns the chronograph seconds and minutes to zero by disengaging the brakes at the precise moment when it hits the specially profiled return-to-zero parts… These two innovations make it possible to reduce the mechanism to three levels. In this more compact version, it gives rise to a sturdy movement ensuring long-term reliability.

It is fitted with fly-back and return-to-zero functions, as well as a 60-minute counter. The date is shown on the dial by large-sized separate numerals, according to a patented display mode. The guilloché silver hour, minute and small seconds subdials are screwed to the 18-carat gold watch face.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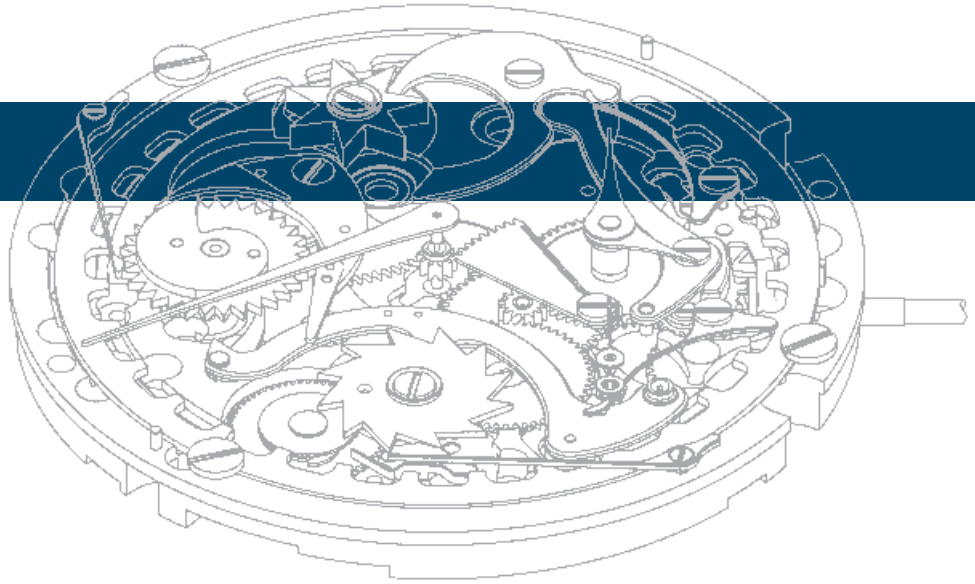
Octa Calendrier

Octa Calendrier



The annual calendar is the third complication to be integrated within the Octa automatic winding calibre, defined as the first automatic winding movement to ensure a minimum power-reserve of 120 hours (five days) enabling extremely precise time measurement even when not worn. The originality of each of the Octa complications is imposed by an identical mainplate for all models within the Octa collection. The mechanism must adapt to the milling and drilling required for other complications and must also be inserted within a thickness of just 1 millimetre. Once again, François-Paul Journe has achieved the feat of integrating within this five-day automatic calibre a complication as significant as an annual retrograde calendar, while maintaining the dimensions of the mechanism at 30 mm in diameter and 5.7 mm thick.

The calendar which displays the day and month through two separate windows advances instantaneously and is self-adjusting for the months of 29, 30 and 31 days. The Octa annual calendar automatically moves from month to month. It only needs to be advanced manually at the end of February, three years out of four. For non leap-years, the calendar must be moved from February 28th to 29th by a single turn of the crown and the calendar automatically moves from February 29th to March 1st.

The annual calendar is driven by an internally geared large transmission wheel which surrounds the mechanism. This activates the main lever every 24 hours. The main lever reaches across the movement to advance the date-wheel and its hand day by day. The date-wheel in turn drives the month wheel through a rack. The days, on a regular seven-day cycle, are moved forward by the transmission wheel.

The automatic advance of the date from the end of short months to the beginning of the next month is programmed by a cam mounted on the month-wheel. The five recesses around the cam's circumference, representing the four months of 30 days and February, act on the main lever that advances the date twice. At the end of April, June, September and November, the date-hand thus jumps from the 30th to the 1st. As it climbs out of the recess for February, which is deeper, the main lever moves the date three times, from February 29 to March 1. It is only at the end of a February with 28 days, in three years out of four, that the date needs to be advanced manually.

The date-hand rides up its scale on the curve of a snail cam mounted on the date-wheel. On the last day of the month, the date lever drops to the bottom of the cam, to bring the date-hand flying back to the start of its scale.

The date-hand itself is mounted on the pinion between two racks, one of which incorporates a blade-spring. The racks hold the date-hand precisely to the numeral on its scale, while controlling its return when the lever falls down the cam.

DE PLATINE ET D'OR

The models and their variations

In platinum and gold

Pure in manner, pure in matter: creations by François-Paul Journe simply had to be clothed in the most precious metals. Among these, platinum gives watch cases a matchless radiance. This noble and discreet garment highlights the characteristic F.P.Journe – Invenit et Fecit – dials crafted in 18-carat white, yellow or rose gold. This association of gold and platinum provides scope for personalisation and ensures the best possible protection for the delicate watch mechanisms.

A genuine “eminence grise”, ruthenium is the sovereign among precious metals. Derived from platinum, its sheer rarity means it can only be used for certain limited series and exceptional creations.

Collection Souveraine

Tourbillon Souverain

- Platinum case Ø 38 mm
- Dials in 18-carat yellow, rose or white gold

- Rose gold case Ø 38 mm
- Dials in 18-carat white or rose gold

Collection Souveraine

Chronomètre à Résonance

- Platinum case Ø 38 mm
- Dials in 18-carat yellow, rose or white gold

- Rose gold case Ø 38 mm
- Dials in 18-carat white or rose gold

Limited series “ruthenium”

- Numbered from 1 to 99
- Platinum case, Ø 40 mm

Collection Octa

Octa Réserve de Marche

- Platinum case Ø 38 mm
- Dials in 18-carat yellow, rose or white gold

- Rose gold case Ø 38 mm
- Dials in 18-carat white or rose gold

Octa Chronographe

- Platinum case Ø 38 mm
- Dials in 18-carat yellow, rose or white gold

- Rose gold case Ø 38 mm
- Dials in 18-carat white or rose gold

Collection Octa

Octa Calendrier

- Platinum case Ø 38 mm
- Dials in 18-carat yellow, rose or white gold

- Rose gold case Ø 38 mm
- Dials in 18-carat white or rose gold

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