HARRY WINSTON

OPUS · ONE

Resonance Chronometer

Six unique timepieces featuring: the first wristwatch movement with two independent balances synchronised by resonance for supreme mechanical precision.

An exclusive movement: invented and made by master-watchmaker, F. P. Journe.

François-Paul Journe has been studying the physical phenomenon of resonance for 20 years. At the start of his career, when he was working at his uncle's horological workshops, he was entrusted with the restoration of a resonance clock made for the king of France. He was fascinated by the idea that a mechanism could apply such a mysterious phenomenon to achieve precision.

The young man's interest in resonance brought him into long discussions with a friend, a naval engineer who was also faced with the disturbing influences of this phenomenon. After much trial and error, Journe succeeded in building a resonance pocket-watch in 1983, and finally the world's first wristwatch movement using the principle of resonance.

Resonance — the synchronisation of frequencies

Every oscillating object sends out vibrations. Nearby bodies absorb the energy and can start vibrating at the same frequency. This phenomenon of resonance is part of our daily lives. In a resonance watch, each balance both sends out vibrations and absorbs those of its pair. When they start oscillating they naturally become synchronised, beating in counter-phase. This only happens when they are around 0.4mm apart and the difference in their rate is less than 10 seconds a day. A rack-and-pinion moves one balance closer to its twin until resonance sets in. Both then beat together as twin hearts, keeping the time with a precision that no other mechanical watch can equal.

A unique movement made precisely for the wrist.

The shocks and disturbances that affect the rate of a conventional wristwatch are cancelled out by the twin balances of the resonance chronometer. If one balance speeds up, the other slows correspondingly until they return to their common frequency. The synchronised balances support one another to develop greater inertia.

Connected by an invisible wave, the balance wheels seem controlled by Chronos himself, to provide unprecedented precision in a mechanical wristwatch.

This innovative mechanism is an exercise in ideas as well as technology. It combines a deep appreciation of horological science with a long research into precision and originality in creating wristwatches.

Harry Winston illuminates inventive genius

Technical challenge. The engineers and goldsmiths of the House of Harry Winston paid tribute to the ingenuity of the mechanism by integrating the winding-crown between the platinum bracelet attachments. The crown, thus placed at 12 o'clock is mysteriously incorporated into the form of the watch, yet turns freely. It winds both movements and sets the hours and minutes of each dial separately, to indicate times in two different parts of the world. A crown at 4 o'clock zeroes and restarts the twin seconds-hands.

The case made in platinum, the precious metal selected by the House of Harry Winston for all the Opus One watches. The case comprises five distinct parts: the bezel, the caseband, the back, the crowns and the lugs. Each element is the creation of craftsmen specialised in working this untameable metal. Dozens of separate operations — chamfering, smoothing angles, satin finishes — gradually reveal an exceptional watchcase.

Total visibility. A sapphire-crystal caseback lets you admire the sophisticated mechanism of this extraordinary timepiece. Visible are the two movements with their balances beating in counter-phase at the same frequency. The two free-sprung balances with their four adjustment screws are an original F. P. Journe creation. The balance-wheel on the right is moved by a rack-and-pinion until it is at the right distance from its twin for resonance to set in.

The dials crafted with extreme attention to detail, the dials reveal the very heart of these exceptional timepieces. The indications of the movement are emphasised by highlighting each detail. A 40-hour power-reserve indicator shows how long the chronometer will run before it needs rewinding. Special attention has been lavished on the twin dials, works of art crafted by hand in the Harry Winston workshops.

The style. The traditional jewellery house of Harry Winston is known for its unerring sense of contemporary styling. The clean architectural lines of the case are inspired by the arch of the legendary HW Salon in New York's Fifth Avenue. It's a style that reveals all the spirit of inventiveness and originality in horology.

TECHNICAL FEATURES

Six unique timepieces.

Movement:	François-Paul Journe twin-movement resonance-system chronometer, with: two going-trains two escapements two independent balances Twin hours, minutes and seconds indications for two time-zones. 42-hour power-reserve indicator.
Case:	950PT platinum set with 51 baguette diamonds for a total weight of 4.85 carats on the models with turquoise and black dials
Crystal:	sapphire crystal with double anti-glare treatment
Dial:	anthracite grey silvered turquoise, set with 116 diamonds and 23 baguette diamonds for a total weight of 0.35 carats black, set with 158 diamonds for a total weight of 0.35 carats purple blue
Caseback:	sapphire crystal
Water-resistance:	30 meters (3 ATM)
Band:	hand-stitched crocodile strap

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Tourbillon

Six exclusive timepieces with the first tourbillon wristwatch movement with a constant-force remontoir

An exclusive movement: invented and made by master-watchmaker F. P. Journe

Devices designed to deliver a constant force to the regulating organ have been tried by eminent horologists the 16th century. But each has interpreted it in their own way. There is no standard version.

With a background in restoring collectors' watches François-Paul Journe considers the 18th century as the golden age of horology, and wristwatches are a relatively new field for him. His constant search for precision honours the greatest horological invention of the golden age — the tourbillon — by combining it with a constant-force device for the first time in a wristwatch. The tourbillon cancels out the positional errors of a watch by rotating the entire balance and escapement about their axis once a minute.

François-Paul Journe's spectacular movement combines two of the most sophisticated precision devices in watchmaking — the tourbillon and the constant-force remontoir.

This world first in watchmaking, which pays tribute to the great inventions of horological science, ensures the movement's very high precision.

What is a constant-force remontoir?

Essentially it's an auxiliary (remontoir) spring and wheel-train that provides a direct and constant force to the escapement, isolating it from the fluctuating power of the mainspring. The auxiliary train is mounted on a pivoting lever. The lever stops the main going train to allow the remontoir spring to supply the power to the escapement, and then releases the main train every second to rearm the remontoir spring.

The tourbillon in fitted with F. P. Journe's exclusive four-armed balance. The rate is adjusted by turning the weights on the balance rim — a system that ensures great stability. The constant-force remontoir, with its spinning governor of 18-carat gold, ensures a steady power-supply to the escapement throughout the development of the mainspring.

Harry Winston aesthetic mastery creates watchmaking history

Only the talent and expertise of a century-old jewellery house could pay adequate tribute to one of the finest technical achievements in watchmaking. Each of the six tourbillon watches is crafted in homage to the science, art and culture of horology. The materials selected transfigure each detail of these unique

chronometers. Each timepiece is a part of history, marking the encounter of the greatest craftsmen in jewellery and watchmaking. They symbolise a new era that gives luxury its truest definition.

The case. The most noble and enduring of metals was the obvious choice to protect a movement of such refinement. Platinum (950pt) envelops an exclusive world invention. The case tells the intimate story of the precious and rare metal which Harry Winston's craftsmen have tamed with elegance in numerous jewellery and watchmaking creations.

The dials carefully designed to balance form with function, the dials demonstrate the art of detail. A 42-hour power-reserve indicator shows for how long the chronometer will run before it needs rewinding. The exclusive F. P. Journe tourbillon carriage emerges from the mechanical heart of the watch, its visible pulse beating in tandem with the heart of enthusiasts.

The style. Harry Winston once more excels in the art of combining tradition with innovation. It was indeed a daring move to introduce diamonds and other gemstones into the design of a timepiece made in the horological tradition. But daring to be beautiful is part of the history of the American jewellery house. It has always managed to reach the heart of enthusiasts by displaying fine workmanship, originality and rarity at the first glance. Audacity with tact and elegance — herein lies the creative secret of the discreet yet universally known jewellery house.

TECHNICAL FEATURES

Six unique timepieces.

Movement:	François-Paul Journe one-minute tourbillon movement indicating the seconds on the dial, with constant-force remontoir. Remontoir rearmed every second. F. P. Journe four-armed balance (21,600v/h) with adjusting weights. Lateral lever escapement. 40-hour power-reserve indicator
Case:	950 platinum set with 76 baguette diamonds for a total weight of 3.00 carats on the models with blue and black dials
Sapphire:	sapphire crystal with double anti-glare treatment
Dial:	anthracite grey silvered blue set with 118 diamonds for a total weight of 0.25 carats black set with 118 diamonds for a total weight of 0.25 carats pink turquoise
Case-back:	sapphire crystal
Water-resistance:	30 meters (3 ATM)
Band:	hand-stitched crocodile strap

OPUS · ONE

The five-day automatic

Six exceptional timepieces incorporating: the first automatic movement to maintain chronometer precision for five days off the wrist

An exclusive movement, invented and made by master-watchmaker, F. P. Journe.

This automatic movement is one of the most evolved constructions by this inventor and creator of watches. Like the masters of 18th-century horology, François-Paul Journe is above all a researcher, and his field is mechanical precision.

With a spatial vision that most watchmakers would envy, François-Paul Journe conceived a movement that would integrate future complications without altering the 5.7mm x 31mm dimensions of the calibre. In addition to designing the future into the present, Journe achieves a technical breakthrough with an automatic movement that maintains precision for five days when the watch is not being worn. It indicates a 120-hour effective power reserve, the hours, minutes and an attractive large date — also an F. P. Journe patent.

Precision through mechanical ingenuity

Sustained power. Watches with long power reserves are handicapped by small balances susceptible to shocks and disturbances. The compact construction of the five day movement leaves space for a full-sized (10.1mm) balance, giving greater stability. The free-sprung chronometer balance is adjusted by four turning weights to vibrate at a constant 21,600 times an hour. The metre-long mainspring develops an average 850 grams of torque, ensuring a constant rate by limiting the balance's amplitude loss to 20% over the five-day period. Beyond that time the watch continues to go for another day or two, but the loss in amplitude no longer guarantees chronometer performance.

Fast rewind. The highly efficient bi-directional winding system winds the watch fully within three hours on a standard wrist simulator. This performance means that owners should have no difficulty in maintaining adequate power reserve through the natural movements of their wrist.

In this unique construction, François-Paul Journe achieves the maximum power reserve for a normal-sized automatic movement without compromising on precision. The optimum balance between force, capacity and efficiency results in a reliable and enduringly precise timepiece

This exclusive and innovative horological movement is given its true value by the art of the most talented craftsmen at the House of Harry Winston. Seeking the sublime, the Harry Winston style

Each of these timepieces has been conceived with one purpose: to fulfil the dream of a single individual.

None of the watches is alike. Each displays the expertise of a creative jeweller whose tradition has never limited its powers of innovation.

The materials create the subtle link between dreams and reality. They have been carefully selected to give the face of each chronometer its individual and unique character.

The case platinum, the purest and rarest of metals, remains the hallmark of the jeweller who first brought it into fashion in brilliant jewellery creations. Its density gives it its unique and precious lustre. Platinum's hardness resists the passage of time, assuming a distinguished patina. It's a metal with obvious breeding, and you could almost say that it has a personality. Harry Winston chose platinum to protect watch movements as authentic as the refined and exclusive decoration created for them.

The dials crafted with extreme attention to detail, the dials reveal the very heart of these exceptional timepieces. The indications of the movement are emphasised by highlighting each detail. Selected by Ronald Winston, current CEO of the House of Harry Winston, the most precious gemstones (sapphires and diamonds) define the structure of these spectacularly elegant faces.

The style. Harry Winston excels in the art of refining exclusiveness. The results can be seen in the brilliance and pure lines of each chronometer. Each of the selected materials underlines the contemporary styling of these distinguished-looking timepieces. Each is unique and resembles no other. The stamp of the American stylist has a creative strength that never ages.

TECHNICAL FEATURES

Six unique timepieces.

Movement:	François-Paul Journe five-day automatic chronometer. 13,5-ligne movement, 5,7mm high. Free-sprung balance (21,600v/h), four adjusting weights, in-line lever escapement, 15-tooth escape-wheel. 120-hour power-reserve indicator, large date (F. P. Journe patent), hours, minutes and small seconds.
Case:	950PT platinum set with 54 baguette diamonds for a total weight of 5.00 carats on the models with blue and mother-of-pearl dials
Crystal:	sapphire crystal with double anti-glare treatment
Dial:	silvered black blue, set with 92 diamonds for a total weight of 0.20 carats mother-of-pearl, set with 92 diamonds for a total weight of 0.20 carats green deep blue
Caseback:	sapphire crystal
Water-resistance:	30 meters (3 ATM)
Band:	hand-stitched crocodile strap