

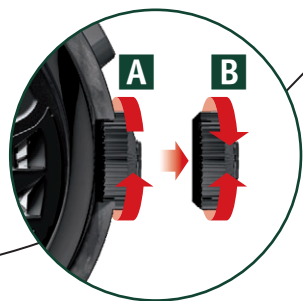


Instructions for use
Mode d'emploi

MILLENNARY CARBON
TOURBILLON AND
CHRONOGRAPH

Calibre 2884
Hand-wound

AP
AUDEMARS PIGUET
Le maître de l'horlogerie depuis 1875



ENGLISH

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The Manufacture Audemars Piguet

The Vallée de Joux : cradle of the watchmaker's art

In the heart of the Swiss Jura, around 50 kilometres north of Geneva, nestles a landscape which has retained its natural charm to this day: the Vallée de Joux. Around the mid-18th century, the harsh climate of this mountainous region and soil depletion drove the farming community settled there to seek other sources of income. With their high degree of manual dexterity, inexhaustible creativity and enormous determination, the inhabitants of the valley, known as Combiens, were naturally drawn to watchmaking.

Due to their high quality, the movements they produced acquired great popularity with the Geneva firms which used them to create complete watches.

From 1740 onwards, watchmaking developed into the principal industry of the Vallée de Joux. This region was thus transformed, as an 1881 chronicle put it, "into a land of milk and honey, in which poverty has rapidly disappeared".

Two names for a great adventure

In 1875, two young men passionate about Haute Horlogerie — Jules-Louis Audemars and Edward-August Piguet — decided to pool their skills to design and produce watches with complications in the Vallée de Joux, the cradle of Haute Horlogerie. Determination, imagination and discipline led them to instant success. A branch in Geneva was their next move in about 1885 and new commercial links were forged at the 1889 Paris World Exposition, where they exhibited complication pocket watches. The Audemars Piguet factory continued to expand as the years went by. Its creations represented major milestones in the history of Haute Horlogerie, like the first minute repeater wristwatch in 1892 and the smallest five-minute repeater movement ever made in 1915.

From 1918 onwards, the founders passed the reins of the business onto their sons, who in turn perfected their expertise in manufacturing men's and ladies' wristwatches as well as designing new sophisticated, ultra-thin movements. Perseverance and initiative were the watchwords: while the Wall Street crash in 1929 was a bitter blow, the company directors were soon designing so-called skeleton watches before embarking on chronograph production.



But this new momentum was abruptly interrupted by the Second World War. Re-organisation was necessary in the aftermath of the conflict. The factory focused on creating top-of-the-range items in keeping with its tradition of innovation. A strategy that would prove its worth, especially since it was backed by outstanding creative daring.

Audemars Piguet continued to build on its now international reputation with creative designs. 1972 saw the launch of the *Royal Oak*, the first, immediately successful high-quality sports watch in steel, followed in 1986 by the first ultra-thin tourbillon wristwatch with automatic winding. The creative spirit of the Manufacture has not faltered since, offering aesthetically original timekeepers with outstanding movements. Thus it brought watches with complications back into fashion at the end of the 1980s, launching its extraordinary *Tradition d'Excellence* collection in 1999. All the signs of a bold spirit rooted firmly in tradition and auguring well for the future.

Materials

The *Millenary Carbon Tourbillon and chronograph* is packed with state-of-the-art features including highly innovative new materials, with the calibre 2884 incorporating a number of components brought into play by cutting-edge manufacturing processes.

Practically pure carbon

The mainplate is made of practically pure carbon, a rare, exclusive material also used in the aerospace industry. This particularly sophisticated carbon is the result of lengthy and meticulous research and development in order to achieve an optimal structure capable of meeting an extremely demanding set of technical specifications. Contrary to the type of carbon frequently used in numerous cutting-edge industrial sectors, made of a substance combining carbon sheets and resin, the material sought by the Manufacture had to meet far more stringent demands.

Thus machined from a high-density (52%) carbon, the mainplate of the new Calibre 2884 meets extreme norms in terms of reliability, resistance and hardness. The nanofibres of this particularly light material are not woven, but instead compressed with a special polymere at a temperature of 2,400°C and at a pressure of 750 atm. Thanks to the concentrated, light and rigid structure thus achieved, the material features exceptional mechanical resistance and remarkable stability even in fluctuating temperatures.



Through its capacity to ensure infinitely small elastic deformation, the carbon used by Audemars Piguet provides exceptional mechanical properties for driving in the metal elements, such as the foot screws in the body of the mainplate. Once driven in, these components thus guarantee optimal stability. With its surface resistance and toughness, the carbon chosen by Audemars Piguet will ensure this timepiece ages gracefully, in contrast to standard carbon, which carries a great deal more resin, and is generally used in watchmaking to craft dials.

Functions

The Audemars Piguet Calibre 2884 qualifies as an extraordinary exploit. With its twin-barrel system ensuring a 10-day power reserve, this hand-wound movement features a tourbillon, a power-reserve indicator and a high-performance chronograph.

The tourbillon

The most outstanding watchmakers have been striving to improve timing accuracy since the second half of the 18th century. The desire to achieve an identical setting for a timepiece in all positions is a major challenge. Under the Earth's pull, the tiniest variations in equilibrium have a negative influence on the regulating part (balance/balance-spring) when positioned vertically, thus causing running differences in the watch.

In 1801 the watchmaker Abraham Louis Breguet thought up a tourbillon regulating system that balanced the running differences in all positions.

The operating principle has remained largely the same to this day: the escapement parts (wheel, pallet and balance) are held in a movable frame rather than being fixed in the movement. By rotating on its axis every minute with the escapement parts, this frame enables all the parts to change position constantly, thereby offsetting the running differences caused by the effects of gravitation.

185 years later, in 1986, Audemars Piguet successfully fitted this system for the first time into a production wristwatch with an ultra-thin automatic mechanical movement. The Manufacture in Le Brassus has since built on this success by presenting many tourbillon models combined with all watch complications.

The Manufacture, still one of the select few mastering the secrets of this complication, offers more than 25 different tourbillon movements.



The chronograph

We are often called upon to be able to measure the time separating two events. This makes the chronograph an indispensable instrument. Its invention was the work of a watchmaker in the Vallée de Joux, Henri-Féréol Piguet, who designed and created this system in 1845.

Since its founding in 1875, Audemars Piguet has been developing and making some of the most sophisticated and efficient chronographs in the world. While the Carbon tourbillon and chronograph perfectly reflects this philosophy, dating back over one hundred years, it also makes its own mark with an exclusive chronograph mechanism that showcases the Brassus Manufacture's latest advances in reliability and precision.

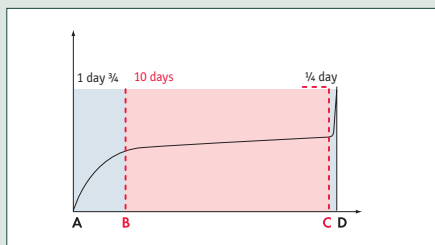
Mounted on an aluminium module, this chronograph mechanism features a new and extremely efficient coupling lever. Apart from its tip which is in contact with the column wheel, the lever is entirely machined in black PVD-coated nickel. This provides dual gearing adjustment to ensure greater accuracy, an exclusive Audemars Piguet innovation that also prevents the chronograph hand from jumping when the start function is activated.

Moreover, the 30-minute counter is equipped with a practical device enabling a semi-instant jump of the chronograph minute hand within an interval of approximately half a second. The advantage of this system lies in the facilitated time measurement reading, since the transition from one minute to the next occurs rapidly and gives a clear indication of the number of minutes elapsed.



Twin-barrel system - Power reserve

The power-reserve indicator is shown on a red and white display on the left-hand side of the dial. The rapid-rotation twin-barrel system – with a maximum number of revolutions restricted to 19.75 – guarantees constant force during the full ten days of autonomy, thus ensuring enhanced efficiency and improved timekeeping. This is because the power reserve actually provided by the twin parallel-mounted barrels is equivalent to twelve days. However, an ingenious locking system – in the zones indicating full (C–D) and low (A–B) charge levels – concentrates the watch operation on the ten days of medium level running, which are the most regular (B–C), thereby ensuring optimal efficiency.



The 19.75 winding revolutions of each barrel – well-above-average figure – are facilitated by the use of a particularly thin spring. This specific feature ensures far more flexible and regular transmission of energy to the gearwheels, resulting in higher rating precision and reliability.

The power reserve display on the *Millenary Carbon* draws on two other innovative features ensuring a reliable, accurate display through constant tension on the hand's gear train

The power-reserve indicator with double inverted cone transmission was developed by Audemars Piguet. The Manufacture in Le Brassus has adapted this system, ensuring highly accurate hand-amplitude adjustment. A beryllium copper cone coated in amorphous carbon moves up and down the barrel-arbor according to the degree of winding of the watch; when the position is low, the barrel is fully wound, and vice versa. An eccentric second cone, in contact with its mobile counterpart, picks up the information and sends it to the power reserve hand. The “planetary differential” gearing limits the range available to the power reserve hand on the dial, with the cone-transmission system ensuring greater flexibility via the lever.



Twin barrel movement with power-reserve cone and locking system

Views of the movement

Calibre 2884

Bridge side



Dial side



Movement technical data

Total thickness: 9.77 mm

Dimensions of the movement: 38.40 x 33.40 mm

Frequency: 21,600 vibrations/hour (3 Hz)

Number of jewels: 30 rubies

Minimal power reserve: approx. 10 days

Built-in barrel winding after approx. 128 turns of the crown

Manual winding

Balance with variable inertia blocks

Breguet hairspring

Mobile stud-holder

Number of parts: 336

Specificities

Oval shaped movement

Integrated chronograph movement

Locking gear Stopwork

Twin barrels in parallel

Carbon mainplate

Anodised aluminum bridges

Black PVD german silver bridges

Manual finishing of the cut out parts (polished bevels, grained finishing on top and Matt "brouillé" finishing underneath)

Manual finishing on both bridges and mainplate

Watch indications and functions

(see figure on the inside cover)

In chronograph mode, your watch can measure times to 1/6 second and up to 30 minutes.

- ① Hour hand
- ② Minute hand
- ③ Chronograph second hand
- ④ Chronograph minute hand (up to 30 minutes).
- ⑤ Power reserve indicator hand
- E Pushbutton of the chronograph function
 - Push once: start
 - Push again: stop
- F Pushbutton to return to zero

Your watch is fitted with a two-position crown:

- A Crown in manual winding position
- B Crown in time-setting position





Setting the time

The time can be set without any risk by turning the crown clockwise or anticlockwise after pulling it out to position **B**.

Winding the watch

Your watch with tourbillon, chronograph and power reserve indicator is equipped with a manual winding mechanical movement.

We recommend that it is fully wound once a week, after **at most 8 days** (approx. 192 hours) by turning the crown clockwise.

In this way, the movement keeps enough energy to ensure optimal running precision. In the last 24 hours, the running precision drops progressively.

To fully wind the watch after it has stopped, you need to make 19.75 turns of the barrel, which is equivalent to approx. 128 turns of the crown (clockwise in position **A**).

The crown is fitted with a disconnecting-gear system to protect the mechanism against damage to the barrel blocking system.

Using the chronograph

Start

Press the pushbutton **E**

Stop

Press pushbutton **E** once again

To read the time taken for an event, consult the following:

- the minute counter hand **4**
- the second counter hand **3**



Returning to zero

Press the pushbutton **F**

To continue timing an event

After the first stop, the chronograph can be restarted and stopped at will without first requiring you to return it to zero. This means you can obtain a total time by adding the second time to the first and so on. During all these operations, the watch continues to function normally.

Important remark

Always use push-button **E** to stop the chronograph before resetting the hands to zero (pushbutton **F**). **Do not** reset to zero while the chronograph is running.

In this way, your chronograph can be used as often as you like. You are however recommended not to leave it running permanently. You are also advised to use the chronograph principally within the first five days of full winding. Otherwise the increased power consumption of the chronograph with tourbillon could cause the movement to stop before 10 days.



Power reserve – "full"

Approximate position of the hand after the watch has been completely rewound, with a power reserve of about 10 days.



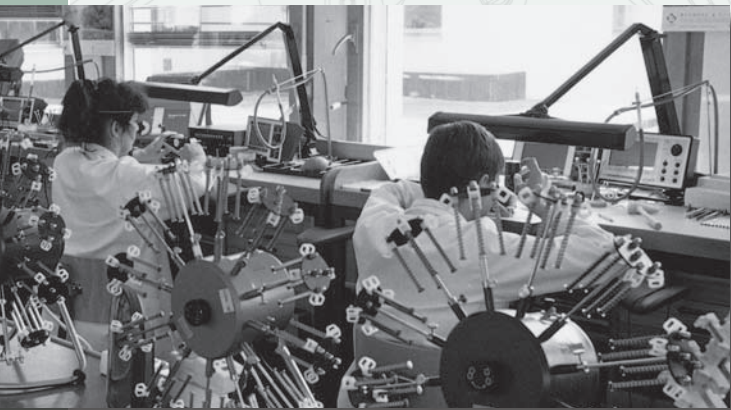
Power reserve – "medium"

Approximate position of the hand after the watch has run for about 7 days. We advise rewinding the watch to maintain optimal operating accuracy.



Power reserve – "empty"

Approximate position of the hand when the watch has stopped. If the chronograph has been running and consuming more energy than usual, the watch will stop sooner.



Guarantee and care

All details concerning the guarantee and instructions on caring for your watch are provided in the enclosed certificate of origin and guarantee.

