



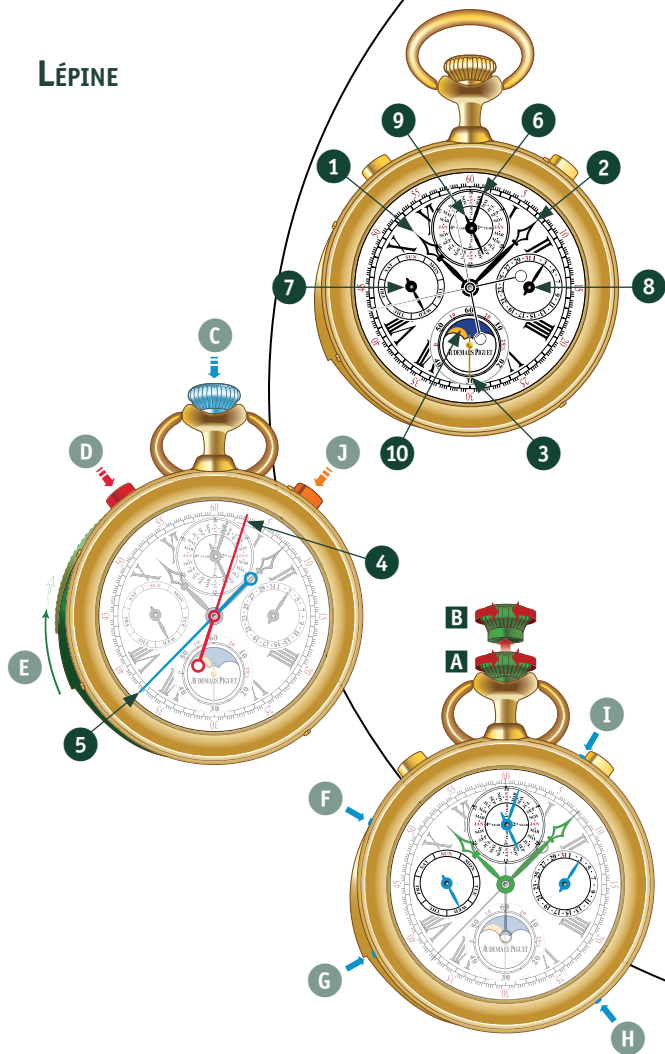
Instructions for use  
Mode d'emploi

GRANDE COMPLICATION  
POCKET WATCH

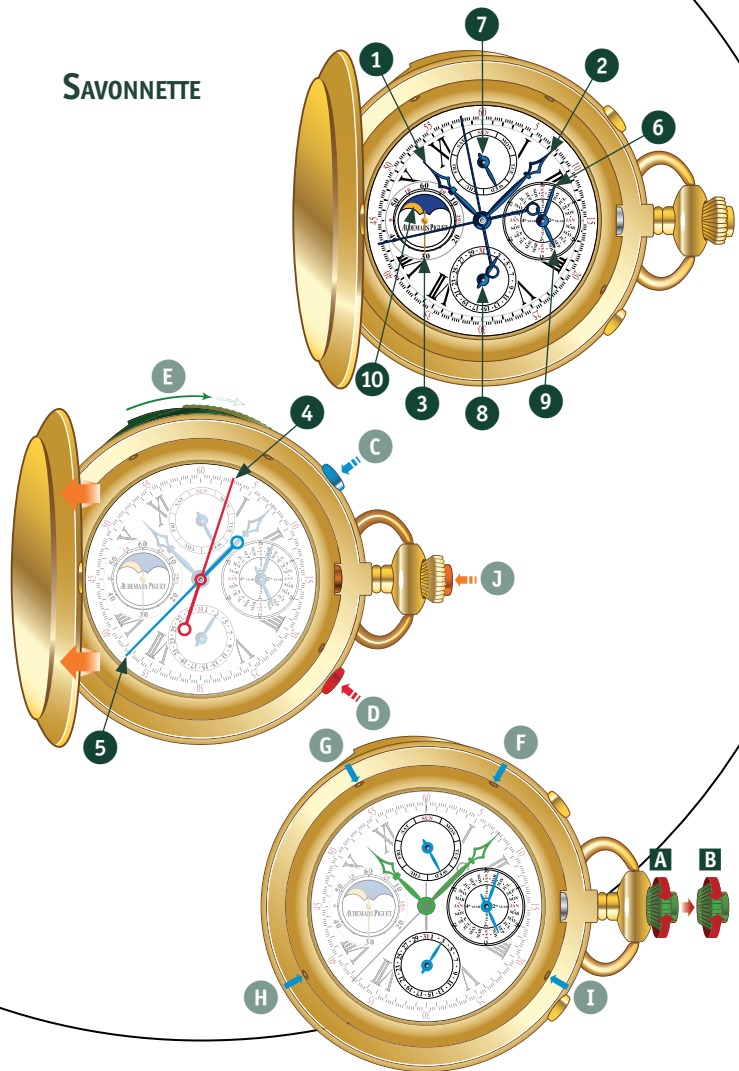
Catibre 2860  
Hand-wound

AP  
**AUDEMARS PIGUET**  
Le maître de l'horlogerie depuis 1875

## LÉPINE



## SAVONNETTE



**ENGLISH**

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## The Manufacture Audemars Piguet

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

**I**n 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-18<sup>th</sup> 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

**I**n 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.



## Grande Complication Pocket Watch

What is a “Grande Complication”? The layman would compare it to an intricate maze, whereas a watchmaker would say that a major complication allows a timepiece to reveal more about time. The master watchmaker — a virtuoso of arrangements that might seem improbable to others, enamoured of fine workmanship as well as cutting-edge technology — knows that a Grande Complication takes the finishing process to the limit. Yet again, this proves how the hand of a skilled craftsman makes all the difference.

Complications can be classified in three categories. The first consists of watches with one or several additional hands to indicate the time (e.g. the chronograph, split-seconds and jumping seconds chronographs). The second contains all watches featuring striking mechanisms. The third refers to watches with mechanisms that provide astronomical indications (e.g. date, moon phase and equation of time). The prestigious “Grande Complication” designation is bestowed upon a watch that possesses at least four different functions out of these three categories.

It takes great mastery to create a timepiece offering excellence in every department: design and reliability, as well as precision. The Audemars Piguet Grande Complication pocket watch ably rises to this challenge by combining the function of a minute-repeater chronograph—featuring split seconds—and a perpetual calendar with moon phases.



## Split-second chronograph

The chronograph alone is one of the most advanced complications in the watchmaking world and one of the most difficult to master. When combined with a split-second mechanism, it is quite simply a work of art. And when that watch also features a perpetual calendar and minute repeater, the result is an exclusive timepiece of remarkable complexity—the Grande Complication.

With its split-second chronograph, the Grand Complication pocket watch showcases state-of-the-art mechanism technology that ensures precision timekeeping. The two column wheels reveal the presence of two separate chronograph mechanisms, one for the second hand, one for the split time. Audemars Piguet's mastery of such complex systems is a result of a quest for perfection pursued by the Brassus Manufacture for over 130 years. Audemars Piguet's own history is often entwined with that of the chronograph, or of its predecessor, the independent dead seconds mechanism—a concept that the Brassus Manufacture recently updated, but one that it was already employing in a Grande Complication pocket watch in 1899.

Offering a blend of everyday practicality and outstanding technical complexity, the chronograph is without doubt one of the most appealing complications in the watchmaking world. It was invented by



the watchmaker Henri Féréol Piguet, who designed and made the system in 1845. Since its inception in 1875, Audemars Piguet has developed and manufactured some of the world's most complex and outstanding chronographs. Yet the keen interest in chronographs over the past 15 years should not belie the fact that they involve a highly sophisticated mechanism, particularly in the high-end version, the column-wheel chronograph.

Invented in 1838, the split-second chronograph is one of the greatest reflections of watchmaking expertise. As embodied by the Grande Complication pocket watch, split-second chronographs feature an additional second hand that can be locked in place at any time to measure an interlude or mark a given time; a simple press of the button will bring the split second back in line with its moving counterpart. This highly sophisticated “lock & release” system is one of the most difficult complications to make.

If the button is not pressed, the two second hands remain superimposed. Pressing the left-hand button locks the split-second hand to measure an interlude or mark a given time. Pressing the same button again brings the split-second hand back in line with its moving counterpart, both of which continue to rotate as one.



## The minute repeater

Striking watches are one of the leading complications in the watchmaking world, and an area in which Audemars Piguet has amply proven its expertise. In over 130 years, the Brassus Manufacture has established a reputation as one of the leading makers of minute-repeater watches. In producing one-piece gongs and exclusive hammer-cocking devices, Audemars Piguet has constantly broken new ground, shaking up conventional approaches to improve the sound and practicality of these mechanical marvels. Watchmakers from the Joux valley have always had a true passion and innate talent for striking mechanisms. This is perhaps because amid the silence of the surrounding mountains and the muffled serenity of snowy winters, the clear chime of these musical masterpieces was imbued with an even more magical sound. Or perhaps it is simply because such complex mechanisms captured the craftsmen's legendary spirit of inventiveness.

The minute repeater can be set to strike a low tone for the hour, a high-low combination for every quarter hour and a high tone for every minute after the quarter hour. This involves the use of two small hammers and two gongs, each with a different pitch, which comprise two steel wires wrapped around the movement and carefully tuned like musical instruments. Audemars Piguet watchmakers have perfected an exclusive method of making one-piece gongs, ensuring source



vibrations are not absorbed by any soldering, the rebuy increasing the intensity of the sound.

The minute repeater requires a particularly sophisticated mechanism. It is not enough for the watch to have a chime pleasing to the ear; it must also “know” how many times to strike. This mechanical “memory” requires the use of three cams, known as “snails” (for the hour, quarter-hour and minute), whose position indicates the number of times the watch must strike. When the repeater mechanism is triggered, three notched components known “racks” fall on the snail-shaped cams, the position of which dictates how many times the chimes will ring. The racks pivot, cocking the hammers, which then strike the gongs. After striking, the hammers are retracted slightly so as not to impair the purity of the sound. A system known as an “all-or-nothing” spring allows the watch to chime only when the repeater mechanism has been fully cocked, preventing any accidental striking.

Throughout the 20th century, this expertise has permeated a range of timepieces highly sought after by connoisseurs, in which striking mechanisms are often combined with other complications, as showcased in the Grande Complication pocket watch.

## The perpetual calendar

The perpetual calendar mechanically reproduces the passing of time.

For the watchmaker, reproducing the different lengths of the month and the leap-year cycle in mechanical terms represents a major challenge. In simple calendars, the date must be manually adjusted at the end of each month with less than 31 days. In the more sophisticated, so-called annual calendars, this correction is only required once a year or in the month of February.

However, one of the gems of the watchmaking art and one of the most sought-after and most useful complex mechanisms, is undoubtedly the perpetual calendar displaying the day, date and month while simultaneously taking account of leap years without manual intervention.

The first perpetual calendar models appeared in the 17<sup>th</sup> century. Louis-Benjamin Audemars was the inventor of the pointer-type perpetual calendar displayed around a circle, in 1811. Since then Audemars Piguet has played a major role in developing this complication, creating a sensation; in 1978, with the presentation of the world's thinnest selfwinding Perpetual Calendar with central rotor (4.05 mm thick), and in 1989, with the smallest ladies' mechanical wristwatch with perpetual calendar (23 mm in diameter), based on the world's thinnest calibre (4.75 mm thick).

Today's masterpiece thus represents a crowning achievement in a longstanding tradition of innovation and excellence.



## Views of the movement

Calibre 2860

Bridge side



Split-second chronograph with  
minute repeater system

Dial side



Perpetual calendar



Minute repeater

## Movement technical data

Total thickness : 8,50 mm

Total diameter : 40,40 mm

Fitting diameter : 39,50 mm (17 ¼ lines)

Frequency : 18,000 vibrations/hour (2,5 Hz)

Number of jewels : 37 rubies

Power reserve : approx. 30 hours

Manual winding

Variable-inertia balance wheel

Balance spring with the Breguet-Phillips curve

" KIF Elastor " shock protection system

Number of parts : 637

## Watch indications and functions

(see figure on the inside cover)

- ① Hour hand
- ② Minute hand
- ③ Small seconds hand
- ④ Chronograph hand
- ⑤ Split-seconds chronograph hand
- ⑥ Minute counter hand
- ⑦ Day of the week hand
- ⑧ Date hand
- ⑨ Month and leap-year cycle hand
- ⑩ Moon phase indicator

### Chronograph :

- ③ Push-piece to use the chronograph  
 Push once to start  
 Push a second time to stop  
 Push a third time to reset

### Split-seconds chronograph :

- ⑤ Push-piece to activate the split-seconds hand  
 Push once to stop (and read an intermediate time).  
 Push a second time to allow the split-seconds hand to catch up to the chronograph hand (superimposed position).

### Minute repeater :

- ⑤ Repeater slide to activate the striking mechanism

### Corrector push-pieces to adjust the :

- ⑦ Day of the week, date, month and leap year cycle

- ⑥ Day of the week (exclusively)  
 ⑩ Moon phase (exclusively)  
 ⑨ Month and leap year (exclusively)

### Case latch :

- ③ Pushbutton to open case

### Your watch is fitted with a two-position crown :

- ① Crown in manual winding position  
 ② Crown in time-setting position

The Grande Complication indicates the:

- Hours, minutes and seconds (small seconds at 6 o'clock)
- Date, day and month
- Leap-year cycle
- Lunar calendar (moon phases).

The watch strikes the following on request:

- Hours, quarters and minutes

The split-seconds chronograph times:

- Intervals of  $1/5^{\text{th}}$  of a second while counting the total minutes elapsed
- Several events starting at the same time but of a different duration.



### Setting the time

Pull the crown to position **B**. You may now set the time by winding in either direction without risk of damaging the movement. Recommendation: make sure to set the time precisely by carefully moving the hands forward to the time desired.

#### Warning:

- Never try to set the time when the striking mechanism is activated.
- Do not confuse noon and midnight.

### Time-zone adjustments

The ideal moment for correcting the perpetual calendar mechanisms is between 1 am and 6 pm.

If it is necessary to move the hands back after midnight, the date and the day of the week will remain one day ahead. This difference is temporary and does not require correction.

### Winding the watch

Your watch is fitted with a mechanical hand-wound movement.

We recommend that you rewind your watch completely every day at the same time (crown in position **A**). Take great care not to overwind (never force it when fully wound).

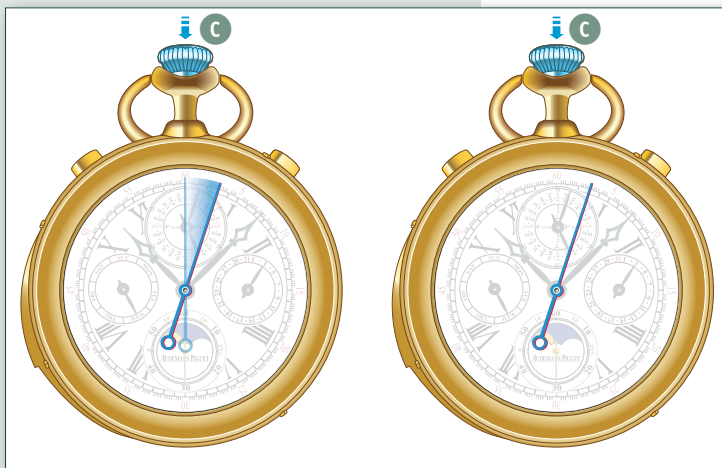
## Functions and use of the split-seconds chronograph

The split-seconds chronograph can be used to simultaneously measure several events that start at the same time but with a different duration.

The mechanism is composed of the two timer hands (chronograph hand and split-seconds hand) in the centre of the dial. They are in a superimposed position.

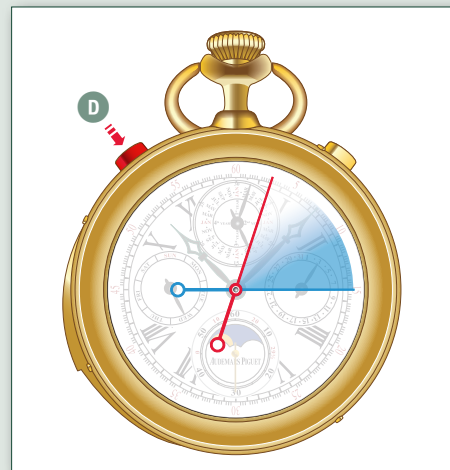
### Single chronograph function

Push-piece **C** is used to start the chronograph and split-seconds hands at the same time and to stop them. The hands take one minute to make one revolution.



### Split-second function

When the chronograph is ticking, pressing button **D** stops the split-second hand to measure the duration of an initial lapse of time. The chronograph hand continues to run.

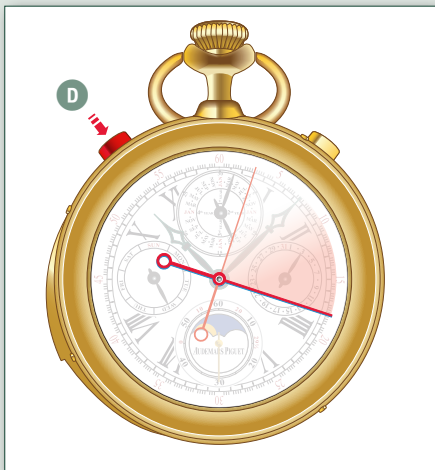


Press once on the same push-piece **D** to stop the split-seconds hand and read the time for the first event. The chronograph will keep running.

The chronograph starts when push-piece **C** is pressed. To stop the chronograph, press push-piece **C** again.



If one presses push-piece **D** again, the split-seconds hand will catch up with the chronograph hand. They will keep running together, superimposed.



Minute counter, positioned either on the hour or at three o'clock depending on model, counts total minutes (one rotation equals 30 minutes).

After the end of the last timed event, the two hands should be superimposed (button **D**) then stopped and brought back to the initial position using button **C** (reset).

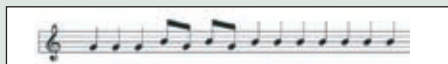


**Important:** the split-seconds chronograph is designed to measure intervals of elapsed time, not to run continuously. In addition, never press push-pieces **C** and **D** at the same time: this might seriously damage the mechanism.

## Functions and use of the minute repeater

The Grande Complication pocket watch chimes hours, quarter-hours and minutes using two hammers that strike two gongs with different pitches, low to indicate hours and high to indicate minutes, with a high-low tone combination to indicate quarter hours.

Example: 3 hours 37 minutes



The striking mechanism is activated by means of the repeater slide **E** built into the left side of the case-middle.

A safety system makes it impossible to activate the striking mechanism if the slide has not been fully deployed.

**N.B. :** the extent of slide deployment depends on the number of hours to be struck.

**N.B. :** when the strike mechanism is activated, the slide should be completely free of all external constraints.



View of the  
hour strike mechanism



View of the  
quarter strike mechanism



View of the  
minute strike mechanism



View of the mechanism repeating the hours,  
quarters and minutes

## Adjusting the perpetual calendar indications

### Preliminary notes

Indication settings may be disturbed if the correctors are not used properly. These correctors should only be used when necessary and following the instructions below closely.

### The moon phase

One lunation lasts for 29 days, 12 hours, 44 minutes and 2.8 seconds.

**N.B.:** The table in the appendix indicates the dates of different moon phases.

### The leap-year cycle

A leap year is a year divisible by four (a year when the month of February has 29 days).

**For example:** 1916, 1920 ... 2008, 2012, 2016 and 2020.

The years that are evenly divisible by 100 are not leap years, unless they are also evenly divisible by 400.

**For example:** 1600, 2000 and 2400.

## Corrections if the watch has stopped for less than 3 days

Check that the crown is in the proper manual winding position (position **B**). Using the crown, turn the hands clockwise until they reach the correct indications.

## Corrections if the watch has stopped for more than 3 days

### Precautions

Before using the correctors, turn the hands (crown in position **B**) until the date indicator jumps one day. Then, continue in a clockwise direction until the hands reach 12 o'clock. In this position the mechanism is at rest and the correctors may be activated with no risk of damaging the calendar mechanism.

Use the correctors with great care (use the setting stylus delivered with the watch). Press on them until the adjustment has been completed.



## Procedure for corrections

Correct and set the following indicators, in order:

### 1. Perpetual Calendar, using corrector **F**.

The day of the week, date, month and leap-year cycle are all adjusted simultaneously.

### 2. Day of the week, using corrector **G**.

### 3. Moon phase, using the corrector **H**.

To adjust the moon phase:

- Display the full moon disc (the disc in which the moon is fully visible and which corresponds to the 15<sup>th</sup> day of the lunar calendar).
- Find out the date of the last full moon. Press the corrector push-piece **H** once for each day elapsed from the date of the last full moon to the date of the present day.

### 4. Month and leap-year cycle, using corrector **I**.

### 5. Setting the time:

If the current hour is before the hour displayed on the watch (before 12 o'clock), turn the hands anticlockwise.

If the current hour is after the hour displayed on the watch (after 12 o'clock), turn the hands clockwise.





## Sounding board

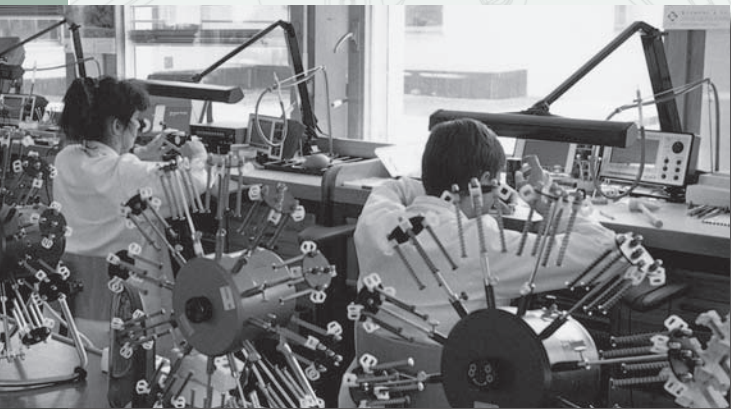
The core of the system consists of two sounding boards made from coniferous softwood, separated by a few centimetres of space.

A bridge transmits the vibrations from the watch to the sounding boards. The fold-down cover maximises amplification of the gong strike by exerting just the right amount of pressure on the watch. The lid has a second function. When open and facing the listener, it projects sound towards the latter. In this way, the resonator is conceived as a musical instrument in its own right.

## Setting stylus

**Important:** the only instrument that you should use to adjust your watch is the stylus delivered with it.





## **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.



