PECQUEUR
CONCEPTUALS

Self-winding Caliber OP 21/1-15

Mechanical art defies time zones

The OP 21/1-15 movement with its differential device borrowed from that of watchmaker Onésiphore Pecqueur is a case of going back to roots. After laying the foundations of automotive development, this invention born almost 200 years ago now returns to its historical essence: horology.

While the principle of its differential goes a long way back, Caliber OP 21/1-15 from Pecqueur Conceptuals opens up whole new horizons in dealing with time zones. Rather than providing a 24-hour dual-time display with a central hand, it simultaneously indicates home time and that of an additional time zone on two dials – yet without involving a double mechanism. It also offers a rare and even unique watchmaking feature by displaying the GMT zone of the chosen second time zone.

Venturing off the beaten track

The basic idea was simple: to perpetuate Pecqueur's pioneering spirit through an innovative mechanism providing an intuitive dual-time reading, without needing to refer to a reference city nor to know how many hours need to be added to or subtracted from home time. The development team at Centagora was enlisted for this endeavor, because behind this apparent simplicity lies an impressive wealth of technical complexity involving no less than 118 parts including 20 jewels for the patented GMT module alone.

The Pecqueur differential powers fresh advances

The differential is the core of this innovation. By means of a pinion, it effectively distributes the energy and the base movement information to the dual-time indications – GMT zone and hour display coupled with a day/night indication – via two entry wheels and a single exit wheel. The first of these two entry wheels serves to drive the function, while the second – a star-wheel placed at the base of the differential – enables adjustments in one-hour increments.
In keeping with Pecqueur's original principle, the differential of the OP 21/1-15 caliber involves a layered construction rather than the flat version typical of classic horological differentials. This specific architecture based on a right-angle drive not only creates a light, airy aesthetic with elegant depth effects, but also offers appreciable functional advantages such as reducing friction and lowering energy consumption.

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Technical complexity ensuring amazing user-friendliness

This remarkably functional patented GMT module enables users to make all adjustments themselves, without the help of a watchmaker. When initializing the watch, a corrector positioned at 10 o'clock on the side of the case serves to set the GMT zone indicator disk in relation to the owner's place of residence. Using a push-button at 8 o'clock, the second time zone can then be adjusted, with each press corresponding to a one-hour increment. Since the GMT zone indicator disk and the display of the hour are perfectly synchronized, two different adjustment options are available, each of which automatically drives the other. If the user knows the time at a given destination, it can be directly set on the dial at 3 o'clock, while making any potential corrections relating to Daylight Saving Time (known as "summer" time) if it applies to that specific country. If the wearer knows only the GMT zone, the disk between 1 and 2 o'clock can be set and will in turn set the time of the destination. Thanks to the distinctive construction of the Pecqueur differential and contrary to classic GMT complications, the rate of the watch remains unperturbed during such adjustments.

When mechanical sophistication meets aesthetic appeal

As the key component in this unusual horological complication, the differential heralds an exceptional approach to watchmaking, propelling mechanics into a whole new artistic dimension. Its cleverly layered construction creates subtle depth effects that may be admired from the dial side. Right from the start of the project, the Centagora developers worked in close cooperation with the Peugeot Design Lab in order to define optimal volumes and ensure perfect harmony between the various displays of the future watch.

The differential bridge overlapping the local time subdial occupies a generous area, as if to invite the gaze to plunge into the very heart of the barely perceptible revolutions of this ingenious device. Along the same axis, an aperture reveals the disk indicating the GMT zone of the second time zone, of which the hour appears in an offset subdial at 3 o'clock, also bearing a day/night indicator. Meanwhile, the small seconds hand sweeps steadily around its own display at 6 o'clock.

An authentic mechanical symphony performed by no less than 311 parts, including 48 jewels, self-winding Caliber OP 21/1-15 embodies characteristically Swiss precision, with a frequency of 4 Hz (28,800 vibrations/hour). Developed on a VMF 3002 base movement, it is equipped with a twin barrel ensuring a comfortable 50-hour power reserve.

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Caliber OP 21/1-15
Technical characteristics

Movement	mechanical self-winding, Caliber OP 21/1-15 on a VMF 3002 movement, with patented GMT module, 4 Hz (28,800 vibrations/hour), twin barrel, Glucydur balance, flat balance-spring, Incabloc shock absorber, ceramic ball-bearing mechanism, 311 parts, 48 jewels, 37 mm in diameter, 8 mm thick, circular-grained baseplate, bridges adorned with Côtes de Genève, rhodiumed or engraved, beveled finish, circular satin-brushed wheels, 50-hour power reserve
Module alone	patented GMT module, developed by Centagora, 118 parts, 20 jewels, 4.3 mm thick
Functions	hours, minutes, small seconds, dual-time display with day/night indication, GMT zone indicator
Display	home time between 10 and 11 o'clock dual-time display with day/night indication at 3 o'clock GMT zone indicator between 1 and 2 o'clock small seconds at 6 o'clock

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