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The Brevia Genie 01 How it works



You have the time - and now the weather

Simon de Burton deconstructs Vincent Dupontreue's brainchild and finds a fine expression of the art of micro-engineering

The relevance of the aneroid barometer has long been surpassed by the technical wizardry of electronics. Any good smartphone can tell you what the weather will be like.

Such advances have not troubled Brevia, which this year launched the world's first mechanical watch to contain a barometer. Costing around £100,000, the Brevia Genie 01 is the brainchild of Vincent Dupontreue, Brevia's founder and a former fashion entrepreneur who made his name selling crystal-studded jeans to Chinese fashion fans for up to €56,000 a pair.

In horological terms, the Genie 01 is a conventional, time-only watch. Yet

it took five years to develop because of Mr Dupontreue's determination to integrate the aneroid barometer, which measures air pressure, within the 44.7mm case, purely as an extravagant expression of the fine art of micro-engineering.

It works by displaying barometric pressure on a secondary sub dial, at the two o'clock position. A plain disc beneath the two main dials contains one of two aneroid capsules (the other is directly below it) that measure alterations in air pressure in the conventional way - only in miniature. The capsules were specifically developed for the watch and are made from a patented, non-magnetic "memory

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metal", which is said to be lighter and stronger than aluminium and twice as ductile. A lever on top of the capsules transmits their height (as it alters according to the air pressure) via a system of gears and racks to both the barometer indication and the altimeter display, which is marked at the top of the dial.

Because air pressure can vary with height above sea level, the accurate functioning of the barometer relies on setting the altimeter which is linked to the aneroid capsules. To synchronise the two, a knurled ring at two o'clock is used to adjust the barometric pressure scale, while a push piece corrects the altitude indication.

The crown at four o'clock, meanwhile, features another knurled locking ring that rotates 90 degrees in order to lock and unlock an air valve. When the valve is unlocked, it opens to allow a small amount of air inside in order to equalise the pressure in the case with the pressure outside, so enabling the capsules to work effectively.

A Teflon membrane prevents moisture entering the case along with the air. A red indicator appears when it is opened to ensure the wearer shuts it again after making any adjustments. The back of the case, provides an engraved correlation between altitude and air pressure to assist with setting.