

JEAN DUNAND

PIECES UNIQUES

GRANDE COMPLICATION

The genesis of a “grand complication” wristwatch

The manually wound Grande Complication wristwatch — 12 complications, 827 parts — joins the JEAN DUNAND stable of superwatches created by Switzerland’s leading watch constructor Christophe Claret, and marketed by his partner Thierry Oulevay.

A combination of classic complications, and more

A true “grand complication” watch gives full expression to the three classical areas of horological complication: the repeater, the chronograph and the perpetual calendar. The JEAN DUNAND Grande Complication does more than qualify for the title, with a tourbillon escapement and retrograde calendar indications as well.

However complicated a watch, good timekeeping is its primary function. In addition to the tourbillon, Christophe Claret has introduced two novel refinements to improve precision. The first is an isolation device that disconnects the chronograph split-seconds hand from the movement when it is stopped. Without this device, the stopped split-seconds acts as a brake on the movement, affecting its performance.

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Perpetual calendar with retrograde dates and days

Just under the dial, an invisible pattern of wheels, cams and levers computes the varying months of the calendar, not forgetting February 29 every four years. On the dial, the perpetual calendar shows the date, day, month and four-year cycle. Added complications that simplify the calendar display are the retrograde indications for the date and the day. A glance tells you how the month and the week are progressing. At the end of each, the hands fly back to Monday and the first of the month respectively.

The sound of time in a minute-repeater

The extraordinary mechanism that reads the time and communicates it to you in a code of chimes is the most technically difficult of the great classic complications. Push down the lever in the caseband, and the cams, racks and hammers go into action to tell you the time to the minute. The hours are struck on the first gong, followed by the quarters on two gongs and ending with the minutes on the second gong. Synchronising and controlling this spring-driven engine is one of the highest tests of a watchmaker's skill.

THE 12 COMPLICATIONS OF THE JEAN DUNAND GRANDE COMPLICATION

Device	Complications
Tourbillon	1
Minute-repeater	1
Chronograph	1
Split seconds	1
Minutes-counter	1
Perpetual calendar	1
Retrograde date	2
Retrograde day	2
Month	1
Leap-year	1
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Total	12

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A steady amplitude for a steady rate

The other device is a new type of shock-proof bearing that equalizes the amplitude — the degree of swing — of the balance, whether the watch is flat or upright. A specially profiled and off-centred end-stone for the balance-pivot creates a slight friction on the balance when the watch is horizontal, bringing the amplitude down to 320°, the same as when it is vertical.

The visible side of the movement reveals the fine finish of the chronograph steel-work, outlined with gleaming chamfered edges. Plenty of sharp points and entrants show the finish is done by hand, for no machine is capable of this refinement.

The invisible side of the movement is no less comprehensively and carefully finished. At its heart is the four-armed notched cam of the minute-repeater that translates the time into the sound of gongs.

The tourbillon — perfecting the classic

The tourbillon is constructed to demonstrate the high level of workmanship required for the classic tourbillon. The balance vibrates 18,000 times an hour on a balance-spring with a Breguet overcoil to ensure its concentric action. The wheel of the tourbillon cage drives the chronograph, transmitting the five-beats-a-second of the balance directly on the 1/5-second scale of the chronograph.

The split-seconds chronograph — a ballet of levers

The chronograph and split seconds are controlled by two column-wheels, each governed by its own button. The button at two o'clock rotates its column-wheel to activate the levers that start, stop and zero both chronograph hands together. The button at 4 o'clock stops the split-seconds hand for an intermediate reading and then makes it catch up with the running chronograph seconds. A third chronograph hand at 3 o'clock on the dial counts each minute the chronograph runs.

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THE WORLD'S MOST COMPLICATED INTEGRATED CALIBRE

GENERAL CHARACTERISTICS

Mono-pusher Split-second Chronograph with Isolator,
Minute repeater, Tourbillon, Bi-retrograde perpetual calendar.

Exclusive manually-wound movement created by Christophe Claret,
100% manufactured and assembled in his workshops.

DIAMETER OF MOVEMENT

28.00 mm

THICKNESS OF MOVEMENT

10.75 mm

NUMBER OF SINGLE PARTS

827

Power reserve of 40 hours

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A total of 9 hands.

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Case diameter

42 mm

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Hand-stitched alligator leather strap.

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TECHNICAL DETAILS

Hour, quarter and minute repeater

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One minute tourbillon with balance frequency of 18'000 pulsations / hour, with Breguet overcoil to ensure the concentric development of the balance-spring.

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Balance amplitude of 320° (constant).

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Mono-pusher split-second chronograph.

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Split second hand isolator.

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Chronograph push-piece at 2 o'clock, start, stop and return.

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Split-second push-piece at 4 o'clock, stop and return.

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30 minute counter at 3 o'clock.

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Date by retrograde hand at 12 o'clock.

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Day by retrograde hand at 6 o'clock.

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Month and leap year at 9 o'clock.

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Visible column-wheels.

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3 constantly driven logarithmically curved heart pieces.

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54 jewels

FINISH

All pieces are angled and polished.

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Polished parts are "polies miroir" by hand.

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Revolution pieces are circular-grained.

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Brass and German silver parts have undergone circular-graining and electroplating.

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Each movement is entirely assembled by the same master-watchmaker.

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Time to assemble one movement

120 days.