



Perpetuating Angelus' legacy of innovative chronographs: U30 Tourbillon Rattrapante

Built like a supercar, the Angelus U30 Tourbillon Rattrapante unites three coveted "*haute horlogerie*" complications in a contemporary, three-dimensional form that is unlike any other: the tourbillon, fly-back double column wheel chronograph and split-seconds (rattrapante), while also boasting automatic winding with a power reserve display.

Angelus can look back on a long tradition in innovative chronograph wristwatches: this history of manufacture chronographs for the wrist began in 1925 with a monopusher. The company's first highlight was the 1942 launch of the Chronodato, the world's first serially manufactured chronograph with calendar. Throughout subsequent decades, Angelus released ever more groundbreaking chronographs, many of them including world-first complications. So when it came to developing an entirely new chronograph movement, Angelus' present-day engineers and watchmakers knew that they had to do something utterly exceptional.



U30 Tourbillon Rattrapante

Manufacture Angelus A-150 calibre: tourbillon, fly-back double column wheel chronograph, split-seconds (rattrapante), power reserve indicator, self-winding.

Case: grade 5 titanium with black coating on the case band, box sapphire crystals (front and back), diameter 47.00 mm
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After five years of intensive research and development secured by several patents, Angelus now presents the U30 Tourbillon Rattrapante. It features a one-minute tourbillon, a fly-back double column wheel chronograph, a split-seconds (rattrapante), a self-winding mechanism and a power reserve indicator. However technically complicated that combination is, it is the movement's contemporary architecture and three-dimensional design that make the Angelus Tourbillon Rattrapante truly unique. All of these complications have been re-engineered based on structural optimization and skeletonized to reveal as much of the movement as possible on the dial side, all while ensuring maximum legibility of the time and chronograph functions. The skeleton bridges alone allow the display of no fewer than 15 different wheels dial side!



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The movement hosts a number of complications – all fully integrated rather than modular add-ons – that are built on several layers, all visible thanks to the skeletonized bridges that create a form evoking the “A” of Angelus. To further increase the impression of depth, the movement is fully transparent around the tourbillon and treated in various shades of black and grey.



Manufacture Angelus A-150 calibre
skeletonized bridges that create a form evoking the "A" of Angelus
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A tour of the open dial begins with skeletonized central hour and minute hands. High legibility is ensured by high-contrast black movement bridges underneath light-colored hour and minute hands, as well as the fact that the latter have slightly curved profiles to catch the light from any angle.

The one-minute tourbillon occupies a quarter of the dial space and can be appreciated through the skeletonized movement plate and bridges at 10 o'clock. The tourbillon is high-beat with 4 Hz / 28,800 vph, a perfect fit for the watch's character. The tourbillon cage is entirely made of non-magnetic material and reduced to the maximum to further minimize mass and optimize performance. Not only can the tourbillon itself be fully admired dial side, but also all its gearing, creating an intriguing micro-mechanical display.



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The power reserve indicator, with visible gears and wheels, is positioned at 8 o'clock directly integrated onto the skeletonized bridge: a green sector indicates ideal torque while red highlights that it's time to wind the watch.



The chronograph function of the U30 Tourbillon Rattrapante is among the most refined and complicated in existence: the split-seconds or “double” chronograph. This type of chronograph is highly complex to achieve, especially when combined with a tourbillon, as the energy consumption of a rattrapante mechanism is very high.



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The rattrapante (or split-seconds) function allows the timing of different events that begin but do not end together, for example the times of two runners. Two separate chronograph second hands are set one over the other; the one underneath is the split-seconds hand. When the chronograph is started, both hands start moving in lockstep together, until a press of the pusher in the crown “splits” them, with the top hand continuing and the bottom split-seconds hand stopping to allow an intermediate time to be noted. By again pressing the pusher, the split-seconds hand will instantly catch up to the main chronograph hand, ready again to record a new intermediate time. Integrated onto the bridge at 3 o'clock, a 30-minute counter completes the chronograph functions.

Fans of horology are sure to appreciate the visible column wheel for the split-seconds function at 4 o'clock, positioned just below the 30-minute counter. The observer can even watch it in operation when the split-seconds function is activated. A second column wheel on the back of the movement controls the chronograph.



Whereas the majority of chronographs operate in the sequence push-to-start, push-to-stop, and push-to-reset, Angelus' U30 Tourbillon Rattrapante is first of all a "fly-back" chronograph, which means that the timing operation can be directly reset and restart without having to be stopped first. The fly-back function is very useful as it allows instant restarting of the chronograph with one push of the button instead of the three pushes necessary for standard chronographs.

The fly-back function is especially complicated to achieve when combined with the split-seconds complication as the fly-back mechanism has not only one, but two, central chronograph hands to reset and restart. In addition, the forces generated on the split-seconds mechanism during the instantaneous reset and restart are significant. Therefore, all of the different chronograph functions have to be painstakingly set and optimized by the master watchmaker during assembly in order to guarantee smooth operation of all functions.

Angelus History

The story of Angelus began in 1891 when brothers Albert and Gustav Stolz founded the Angelus *fabrique d'horlogerie* in Le Locle, Switzerland. The company quickly became renowned for developing and manufacturing pioneering movements and timepieces, both for itself and for other brands



Steel Chronograph Angelus

1940's Fine, large, stainless steel wristwatch with round button chronograph, register and tachometer.
© ANGELUS SA

Over the past century, Angelus earned an illustrious reputation for creating exceptional chronograph and multi-complication wristwatches, multi-display travel clocks with long power reserves, and alarm watches. Along the way, Angelus achieved a number of world firsts in watchmaking, including the first wristwatch with big date, first serially manufactured wristwatch chronograph with calendar, first wristwatch with alarm and date, first automatic repeater wristwatch, and the first fully waterproof repeater wristwatch.



Along with many other prestigious brands, Angelus found it difficult to compete with the arrival of quartz watches in the 1970s and the company ceased operations in the early 1980s.

After lying dormant for 30 years, Angelus has now been revived by new management, which has spent three years developing the next generation of visionary timepieces. The first of these, the U10 Tourbillon Lumière was launched in 2015, followed in 2016 by the U20 Ultra Light Tourbillon and U30 Tourbillon Rattrapante. All models have been developed at the Angelus *manufacture* in La Chaux-de-Fonds, just a stone's throw from where the Stolz brothers established their original factory.

U30 Tourbillon Rattrapante Technical Specifications

Features and Indications

Central hours and minutes, tourbillon, fly-back double column wheel chronograph, split-seconds (rattrapante), power reserve indicator

Movement and Finishing

Calibre:	A-150, mechanical self-winding tourbillon split-seconds chronograph
Complications:	One-minute tourbillon, fly-back chronograph, split-seconds, power reserve indicator
Jewels:	38
Diameter:	37.60 mm
Height:	9.35 mm
Power reserve:	45 hours
Frequency:	4 Hz / 28,800 vph
Balance wheel:	Black gold-treated copper-beryllium
Escapement:	Swiss lever
Regulated:	Set to 5 positions
Gear train:	Wheels with exclusive Angelus six-spoke design to maximize rigidity
Screws:	Angelus three-point design torque-optimizing heads
Main plate and automatic bridge:	Grey NAC-treated to maximize contrast and depth
Upper bridges:	Black ADLC-treated
Column wheels:	Black ADLC-treated and mirror-polished. Both the split-seconds' column wheel on the dial side and chronograph column wheel on the back are visible
Tourbillon cage:	Hand-chamfered and hand-polished. Black ADLC-treated second pointer
Movement finishing:	Chamfered and polished edges, flat surfaces either satin-finished or sand-blasted
Rotor:	Black ADLC-treated with solid 22-karat white gold segment

Dial

Chapter ring:	Hours, minutes and chronograph seconds markers
Counters:	30-minute counter laser engraved onto the upper chronograph bridge and rhodium treated. Power reserve indicator laser engraved onto the power reserve bridge, rhodium treated and filled with green and red lacquer
Hands:	Skeletonized, sand-blasted with polished top hour and minute hands, sand-blasted chronograph second hand with red tip, satin-finished split-seconds hand, sand-blasted with polished top power reserve hand, polished 30-minute counter hand with red line



Case

Material: Grade 5 titanium with black coating on the case band
Diameter: 47 mm
Thickness: 15 mm
Crown: Engraved with ANGELUS logo; 2 positions: 1. winding, 2. time-setting, split-seconds pusher integrated in the crown
Back: Transparent
Distance between lugs: 22 mm
Water resistance: 30 m / 100 ft / 3 atm
Crystals: Box sapphire crystal (front and back) with anti-reflective coating on the inside

Strap and buckle

Material: Black stealth alligator with titanium insert or rubber
Length range: 70 mm to 125 mm
Width: 22 / 20 mm
Buckle: Titanium, folding buckle engraved with Angelus logo

Limitation and reference number

Limited edition: 25 pieces
Reference number: 0CRAC.B01A.C003U

For **high resolution images** please click the link:
www.angelus-watches.com

For more information, please don't hesitate to contact us:

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