

Konstantin Chaykin ThinKing Mystery

A transparent view of time

In the ultra-thin watchmaking niche, every hundredth of a millimeter is decisive. In 2024, Konstantin Chaykin introduced ThinKing, an ultra-thin in-house watch with a case just 1.65 mm thick. Today, the Russian watchmaker and inventor releases this ultra-thin mechanical watch as a limited edition.

From a result to a process

The main challenge of ultra-thin watchmaking is that everything happens at critically small scales. In an ultra-thin architecture, the problem set changes dramatically: minimal clearances, ultra-tight tolerances, deformations measured in thousandths of a millimeter, and the need for selective assembly and hand-fitting of components. This calls for a refined production workflow, possible only with a strictly defined sequence of operations, consistent assembly conditions, and extended final checks. Building on research and in-house technological know-how, the Manufacture has developed internal protocols that make it possible to work confidently with the smallest components.

“FOR ME, THIS ISN’T JUST LUCK. IT’S NOT A COIN THAT HAPPENED TO LAND ON ITS EDGE, BUT A COMPLETE UNDERSTANDING OF A PROCESS CAPABLE OF REPRODUCING AN UNPRECEDENTED THINNESS ONCE ACHIEVED”

Bringing ThinKing Mystery to life meant breaking “luck” down into measurable factors – studying the technology, documenting it, and achieving repeatability across a multi-stage manufacturing process. After all, the case alone goes through around 40 routing checkpoints, a scale more typical of aerospace engineering than classical watchmaking. Every parameter is recorded in internal documentation and verified against strict quality standards.

The Mystery of the Transparent Eyes

Unlike the original record-thin one-off, ThinKing Mystery draws on two sources of inspiration. It still preserves the concept of the legendary Joker – Konstantin Chaykin’s most instantly recognisable watch. This time, however, the design gains one more defining detail. The “eyes” are now fully transparent, with the crossbars disappearing from their structure.

The idea was sparked by Chaykin’s Mystery 1000 Jewels, created in 2007 as a tribute to the legacy of Jean-Eugène Robert-Houdin – an illusionist, watchmaker, and inventor. In the 19th century, Robert-Houdin built a table clock whose single hand was driven by a transparent disc, seemingly floating in mid-air while the movement itself remained hidden inside the case.

“MYSTERY INDICATION HAS LONG BEEN PART OF WATCHMAKING, AND I’D ALREADY HAD SUCCESSFUL EXPERIENCE WORKING WITH IT. AT FIRST, I WANTED TO BRING IT INTO THE JOKER, BUT THEN IT TURNED OUT TO BE A PERFECT TECHNICAL FIT FOR AN ULTRA-THIN MOVEMENT. THE MECHANISM ITSELF SUGGESTED THAT IT WAS POSSIBLE”

In the previous construction, the lateral drive transmitted motion to wheels mounted on a central axis, which meant that both axial and radial runout could occur as they rotated. In the latest version, the lateral drive turns solid sapphire discs, which by design eliminates axial runout. Additional stability comes from three rollers placed around each indicator: they guide its motion, bringing radial runout close to zero, while also reducing energy losses from the mainspring barrel.

Ultra-thin, yet practical

The case is a load-bearing structure that preserves the watch's geometry even at a critically small thickness. For ThinKing Mystery, a high-precision, fully non-magnetic alloy was chosen, offering increased rigidity and corrosion resistance. The in-house calibre K.23-3.1 is integrated into the caseback, which serves as the movement's mainplate.

“I CAN KEEP PUSHING FOR EVER SMALLER FRACTIONS OF A MILLIMETRE, BUT AT THIS STAGE SOMETHING ELSE MATTERS MORE TO ME: MAKING 1.65 MM A ROBUST, REPEATABLE CONSTRUCTION”

The balance assembly is laid out in a single plane as two wheels whose rims interlock via teeth. The first governs the frequency and isochronism of the oscillations. The second, fitted with a roller, acts as the impulse-jewel plate and interacts with the pallet fork. The ultra-thin barrel, with no traditional upper cover, has also been revised. The bridge that holds the barrel is now reinforced with stiffening ribs. The barrel arbor is designed as an overrunning clutch with tungsten carbide balls. The power reserve has been increased from 32 to 38 hours. A patented strap in high-quality leather, with resilient titanium stiffeners and elastic inserts, is part of the overall structure and significantly reduces unwanted stress on the case.

Unrivalled finishing, down to every component

The final finishing of every ThinKing Mystery component becomes painstaking work. Any extra fraction of metal removed, or an incautious touch, can introduce an unwanted bend and affect the geometry of the entire assembly. The watchmaker works with care and precision: each new operation is accompanied by a series of mandatory measurements. This is essential to control the component's dimensions – preserving its strength while keeping the specified thickness across the entire surface. Particular challenges also arise in the final finishing of the case.

“THE FINAL FINISHING OF COMPONENTS AS THIN AS THOSE IN THINKING MYSTERY IS A CHALLENGE IN ITS OWN RIGHT. IT IS EXCEPTIONALLY DELICATE WORK, WHERE A WATCHMAKER'S EXPERIENCE IS DECISIVE ”

Because the alloy undergoes highly demanding heat treatment, its hardness and resistance to plastic deformation increase noticeably. The watchmaker has to feel both the metal and the tool with absolute precision – even a micron-level deviation can affect the specified clearances between calibre components and, in turn, destabilise the movement's operation. Even so, the case and calibre are finished to the canons of haute horlogerie: the bridges and mainplate feature perlage and straight graining, the wheels are decorated with circular graining, and every bevel is hand-cut and mirror-polished.

A clean silhouette

Given the specifics of ultra-thin watchmaking, Konstantin Chaykin rejected the idea of a crown from the outset – it would not only add to the case thickness but also visually weigh down the silhouette. For the

limited edition, two new auxiliary tools are offered, each with a built-in safety mechanism that prevents overwinding, so the mainspring cannot be wound beyond what is necessary.

The first takes the form of a compact, ultra-strong carbon case into which the watch is placed. On its flat inner surface are four spring-loaded supports arranged around the perimeter, along with two spring-loaded shafts for winding and for setting the time. Once the watch is inside and the lid is closed, adjustments are made via two wheels that protrude slightly from the tool's housing. The second device is an elongated key that fits into a dedicated slot on the caseback, with winding or time-setting carried out by turning it.

At this stage, Konstantin Chaykin is focused on laying the groundwork for producing ultra-thin watches. He aims to develop the solutions already found, with some of them set to evolve into new variations and complications.

Technical Specifications – Konstantin Chaykin ThinKing Mystery

Case dimensions and material	41 mm, high-strength, high-precision alloy; 1.65 mm thick
Total number of components	284
Watch weight	12.1 g (without strap)
Movement	Ultra-thin in-house Calibre K.23-3.1 by Konstantin Chaykin with manual key winding; the movement is integrated into the watch case; 54 jewels; accuracy: -15/+20 seconds per day
Balance Wheel	Dual balance with toothed coupling (patented solution); 18,000 vibrations per hour
Escapement	Swiss lever escapement
Power reserve	38 hours, provided by a single ultra-thin barrel (patented solution)
Functions	“Mystery” time indication with hour and minute displays
Display crystals	Four sapphire crystals, 10.6 mm in diameter and 0.3 mm thick
Indication	Two sapphire discs, 10.6 mm in diameter and 0.2 mm thick
Strap	High-quality leather strap with resilient titanium stiffeners and elastic inserts (patented solution)
Buckle	Classic stainless-steel buckle, made by the Konstantin Chaykin Manufacture
Winding box	Carbon and stainless steel, dimensions 47 × 43 × 9.2 mm, weight 30 g, 112 components, including the winding and time-setting mechanism and a safety reversing clutch
Winding key	Stainless steel, 94 mm long and 9.50 mm in diameter, 26 components, including a safety mechanism
Limited Edition	12 pieces