

The Moritz Grossmann HAMATIC – self-winding watch with hammer system

The self-winding hammer system with pendulum weight reveals a peek of the intricate mechanics and converts even the smallest movement into impressive winding power

- The first self-winding watch by Moritz Grossmann
- Presentation of the HAMATIC and the new product video as part of the Moritz Grossmann Roadshow on 23 and 24 May 2019 in Hong Kong
<https://en.grossmann-uhren.com/news/>
- self-winding hammer system reveals a peek of the intricate mechanics
- Thanks to its pendulum-style weight, the hammer body converts even the smallest movement into winding power
- Available in rose gold and white gold

Throughout millennia, researchers and inventors strived to build a perpetual motion machine, a device that would continue to move indefinitely once started. Without any external source of power, it was believed that the machine itself would generate an unlimited amount of energy. It was only with the formulation of the law of conservation of energy in the middle of the 19th century that physics quashed the principle of perpetual motion. Nevertheless, people's fascination for the concept remained unbroken.

Of course, the HAMATIC does not purport to be perpetual motion machine – after all, the first automatic watch from Moritz Grossmann draws its kinetic energy from an external source. A pendulum-style hammer weight skilfully uses the energy generated through the wearer's movements to transfer it via the ratchet wheel to the mainspring in the barrel, meaning that an external energy source makes the dream of infinite motion come true. It's therefore safe to say that the HAMATIC is one of the most beautiful and complex examples of would-be perpetual motion.

Perfected, traditional self-winding hammer system

Once upon a time, most people moved around on horseback or by foot. Both riding and walking mean that the person is subjected to a constant upward and downward movement. The engineers behind the world's first automatic watches in the 19th century exploited this fact by using a pendulum in the shape of a hammer with a heavy head to harness all of the kinetic energy generated through movement.

The engineers at Grossmann deliberately returned to the traditional concept in order to keep the fascinating mechanics of the Grossmann movement visible. In the form of an elaborate, intricately finished frame that is open in the middle, the body of the hammer provides a stage for the hammer spring and striking gold hammer head. The calibre 106.0 complete with its hammer-style pendulum system can thus be seen at work through the sapphire crystal display back.

The bidirectional automatic hammer mechanism guarantees high energy efficiency with consistent winding power. This results in a highly precise and reliable movement. A power reserve of 72 hours is available when fully wound.

The hammer's centre of mass is further away from its rotational axis than with a central rotor. This results in a high torque, which in turn caters for powerful winding. Thanks to the special ratchet mechanism, hammer movements from just five degrees can be used to wind the mainspring.

The calibre 106.0

The calibre 106.0 was especially designed for the HAMATIC. This classic pillar movement has a Grossmann plate with six Glashütte stripes. Through the interplay of the hammer body together with head and spring, the automatic hammer mechanism works in both directions. A sapphire roller transfers the oscillation between hammer spring and hammer body.

Two basic scenarios need to be covered by this system in a reliable and energy-efficient manner - very fast movements and the more gentle deflection. The former generate excessive deflections, which need to be attenuated and limited by fixed end stops. This is ensured by intricately crafted end springs in the hammer frame. If the movements are gentler with low hammer amplitude, energy transmission is nearly loss-free.

Reduction gear with yoke winder

In order to convert the energy into a continuous rotary motion, the oscillations of the hammer body are picked up by two click levers. The two-way direction of rotation of the click wheels ensures an even rotary motion, which is transferred to the free wheel via the reduction wheel and then to the ratchet wheel in the mainspring barrel.

The automatic winding system is complemented by a manual winder designed as a yoke winder that is mounted on a separate bridge. The yoke ensures that the manual winder is always uncoupled from the ratchet wheel when the HAMATIC system is active in response to motion. In manual winding mode, the reduction gear is isolated from the ratchet wheel by a click-pawl idler.

The HAMATIC also offers a stop-second function via the balance for ultra-precise time setting.

The dial

Large, intricately finished Roman numerals adorn the dial, the design of which is reminiscent of the historical pocket watches by Moritz Grossmann. The hands are another nod to the historical models. The hour hand stands out thanks to its pear-shaped tip, while the minute hand moves round the scale in a needle-like, slender design. Once again echoing the design of Moritz Grossmann's pocket watches, the hour and minute hands are extremely delicately crafted and measure just 0.1 mm in width at the narrowest point. At its tip, the second hand is no more than five hundredths of a millimetre. The hands are manually crafted in the manufactory and annealed over an open flame to achieve the distinctive Moritz Grossmann brown-violet hue.

Versions

The Moritz Grossmann HAMATIC is available in white gold and rose gold.

Rose gold model:

Reference:	MG-002302
Case:	750/000 rose gold
Dial:	Opaline with Roman numerals
Hands:	Manually crafted, steel, annealed to a brown-violet hue

White gold model:

Reference: MG-002303
Case: 750/000 white gold
Dial: Opaline with Roman numerals
Hands: Manually crafted, steel, annealed to a brown-violet hue

HAMATIC on the road - experience the HAMATIC exclusively in Hong Kong!

On 23 May 2019, the Moritz Grossmann HAMATIC will be unveiled to an international audience in Hong Kong. The presentation will form part of the Moritz Grossmann Roadshow, which will stop in Hong Kong after visiting Dubai on 30 January and Tokyo on 7 March. It will then travel onwards to its next destination of London in early July 2019.

HAMATIC on film - discover the details of the HAMATIC up close

The new video about the HAMATIC can be found here.

<https://en.grossmann-uhren.com/news/>

Technical Data:

Movement	Manufactory calibre 106.0, automatic winding, regulated in five positions
No. of parts	312
Jewels	38, of which 3 in screwed gold chatons
Escapement	Lever escapement
Oscillator	shock-resistant Grossmann balance with 4 inertia screws and 2 poising screws, Nivarox 1 balance spring with No. 80 Breguet terminal curve, Gustav Gerstenberger geometry
Balance	Diameter: 10.0 mm, frequency: 21,600 semi-oscillations/hour
Power reserve	72 hours when fully wound
Functions	Hour and minute, small second with stop seconds
Operating elements	Crown in 750/000 gold for winding the watch and setting the time
Case dimensions	Diameter: 41.0 mm, height: 11.35 mm
Movement dimensions	Diameter: 36.4 mm, height: 5.15 mm
Case	Three-part, in 750/000 gold
Dial	Solid silver, opaline with printed Roman numerals
Hands	Manually crafted from steel, annealed to a brown-violet hue
Crystal/display back	Sapphire crystal, antireflective coating on one side
Strap	Hand-stitched alligator leather with prong buckle in 750/000 gold
Special features	Grossmann balance; click pawl in reduction gear; adjustment with Grossmann micrometer screw on cantilevered balance cock; pillar movement with 2/3 plate and pillars made of untreated German silver, hand-engraved 2/3 plate and cantilevered balance cock; wide, horizontal Glashütte ribbing, double-band snailing on the mainspring barrel; raised gold chatons with pan-head screws; separately removable clutch winding mechanism; stop seconds for

hand setting; automatic winding with oscillating hammer,
bidirectional click wheels; idler with pawl clicks, manual yoke
winder

MORITZ GROSSMANN
GLASHÜTTE 1/SA



HAMATIC rose gold

MORITZ GROSSMANN
GLASHÜTTE 1/SA



HAMATIC white gold



Calibre 106.0

Moritz Grossmann watches:

Moritz Grossmann, born in Dresden in 1826, was deemed a visionary among Germany's great horologists. In 1854, his friend Ferdinand Adolph Lange persuaded the young, highly talented watchmaker to establish his own mechanical workshop in Glashütte. Apart from building a respected watchmaking business, Grossmann was committed to political and social causes. He established the German School of Watchmaking in 1878. Moritz Grossmann passed away unexpectedly in 1885, after which his manufacture was liquidated.

The spirit of Moritz Grossmann's horological traditions sprang back to life in 2008 when trained watchmaker Christine Hutter discovered the venerable Glashütte brand and had it re-registered. She developed concepts and was inspired by the vision of reviving Grossmann's legacy more than 120 years later with a particularly exquisite wristwatch. And she convinced private watch enthusiasts to support her in making this dream come true. On 11 November 2008 she founded Grossmann Uhren GmbH in Glashütte.

At Grossmann, gifted watchmakers are preserving traditions without copying historic timepieces. With innovation, superb craftsmanship, a combination of traditional and contemporary manufacturing methods as well as precious materials, they celebrate "Schönstes deutsches Handwerk" with their timepieces.

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