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The new Grönefeld 1941 Principia

Almost three years after the release of their multiple award winning 1941 Remontoire Bart and Tim Grönefeld are pleased to reveal their first automatically wound timepiece the “1941 Principia”.

The 'Philosophiæ Naturalis Principia Mathematica' often referred to as simply the Principia, is a body of work by Sir Isaac Newton, delivered in three books. Written in Latin, the Principia formulated the laws of motion and universal gravitation. This Newton's scientific study is the foundation of classical mechanics and it led the Horological Brothers to select the 'Principia' name for their first watch with automatic winding mechanism.

In the sphere of watchmaking, gravity can be a friend or foe. The slightest motion of the wearer's wrist causes an oscillating weight to rotate under gravity. It is this rotation which imparts energy to the mainspring, obviating the need for the wearer to wind the watch. In this instance, the benefit of gravity is harvested, making the 1941 Principia Automatic ideal for daily wear.

However, gravity can also be problematic, exerting undue influence on the rate keeping of a watch. When a timepiece is held in various positions it can run fast or slow. To mitigate the influence of such positional errors, the Grönefeld 1941 Principia Automatic is fitted with a free-sprung hairspring. This specification detail is superior to a simple index-adjuster, but Grönefeld feel it justifies the additional expense involved.

Solid Silver Dials

The Horological Brothers have given much consideration to the dial design, which delivers peerless readability and a handsome aesthetic.

Each version of the 1941 Principia is offered with an array of dials, all crafted in solid sterling silver. The would-be wearer can choose from a cream lacquered dial with roman numerals, a refreshing matt turquoise or light blue dial with polished applied baton hour markers. Alternatively, the company's rhodium plated or gold plated salmon dials are also available. The cream lacquer dial features the same traditional logotype first used by Bart and Tim's Grandfather, Johan Grönefeld, back in 1912.

The extended Lancette hour and minute hands are flame-blued and include mirror-polished centres. In the lower portion of the dial is a small seconds display. A flame-blued hand with an elegant counterweight traverses the display with notable poise. At the top of the subdial on the cream lacquer dial, '60' is proclaimed in a subtle shade of orange. It is a patriotic reference to Bart and Tim's country of birth, The Netherlands.

The Sculpted 1941 Case

The 1941 Principia is housed in the company's 1941 case. Named after the year their father Sjef was born, the 1941 case exudes grace from every angle. It is available in red gold, white gold or stainless steel.

The sculpted case is executed using specially shaped cutters to create the characteristic hollowed, concave recesses and convex surfaces. In between each additional cutting phase, the case is polished prior to the next stage of milling, ensuring the precisely defined contours of the case are retained. This process proves incredibly time-consuming, but the outcome justifies the effort.

Each lug is retained with two hidden titanium screws, positioned inside the case. The lugs can be detached for remedial polishing or, should they have been subject to excessive trauma, they can be replaced.

Measuring 39.5mm in diameter, with a restrained height of 10.5mm, the 1941 case is the epitome of elegance, courtesy of its discreet mien.

A Movement for Connoisseurs

Apart from the ease of use an automatic movement also ensures the mainspring is optimally wound, resulting in less variation of the amplitude of the balance wheel resulting in better performance.

In normal use, the wearer does not need to operate the crown, mitigating the risk of harm to the crown stem. This Grönefeld Principia automatic watch confers convenience, making it ideal for daily use.

Bart and Tim always wanted the Grönefeld 1941 Principia to appeal to the most discerning watch collectors. It was therefore imperative that the movement was befitting of such a timepiece. The stainless-steel bridges replicate the facades of the Dutch houses, termed 'bell gables', once again, referencing the homeland of the Horological Brothers. The bridges are hand-bevelled, evincing a brilliant gleam. The centres deliver a sublime contrast with their micro-blasted surfaces and are adorned with relief engraving.

The 1941 Principia Automatic is fitted with a 22-karat solid red gold monobloc rotor. The eye-catching oscillating weight is extensively decorated by hand and turns on a ceramic ball bearing, preventing wear and eliminating the need for lubrication.

The Grönefeld 5-arm, double spoke gear train wheels exhibit a contemporary character, but their circular grained surfaces pay due reverence to fine watchmaking tradition. Their design, as well as the bevelled escape wheel teeth, prevent the oil dissipating, thereby mitigating wear. The movement includes a balance wheel, with white gold timing screws, and is equipped with a free-sprung hairspring. The escapement is adjusted to heat-cold, isochronism and six positions.

Gold chatons stand testament to the no-compromise specification of this movement. In addition, the mirror polished screws feature chamfered rims and slots. Numerous surfaces gleam, courtesy of the mirror-polishing which has been patiently executed by time-served hands. The inventory of different decorations includes snailed, grained, spotted and frosted surfaces, indulging the desires of purists.

With so much beauty harnessed within the Grönefeld 1941 Principia, a sapphire case back has been fitted to confer a spectacular view.

The Grönefeld 1941 Principia, with its self-winding movement, successfully harnesses gravity, making it ideal for daily wear. Furthermore, as this watch demonstrates, the Horological Brothers have overcome the detrimental effects of gravity and delivered a highly precise watch for the delectation of purists.

Not limited by numbers but the production of the Principia is limited by virtue of the time-consuming creation of each movement. Each movement is finished and assembled by hand. To emphasize the manual labour a gold plate, engraved with an individual number, is applied to the movement.

For Your Convenience

Each Grönefeld 1941 Principia is delivered with a high quality, double axis, watch-winder made by Bernard Favre. The gracious motion of the polished stainless steel rings is a delight for the eye and compliments the high quality automatic movement of the Principia. Even when the Principia is not on the wrist one can still enjoy the beauty of this combined object of kinetic art.

Technical Specifications

Movement

Movement dimensions	Diameter: 32,0 mm Thickness: 5,5 mm
Number of parts	226 parts
Power reserve	56 hours
Number of jewels	31 jewels, partially set in solid gold chatons
Automatic system	Uni-directional winding mechanism For 24 hours of autonomy 633 rotations of the Oscillating mass are required
Oscillating mass	Entirely decorated by hand. 22-karat solid gold. Pivoted on a high precision ceramic ball bearing to avoid excessive wear and the need of lubrication
Balance wheel	Variable-inertia balance wheel with four white gold timing screws (diameter 10 mm)
Frequency	21.600 vibrations/hour
Balance spring	Free sprung with Phillips terminal over coil curve with triangle hairspring stud
Escapement	Jewelled Swiss lever
Main Plate	Spotted and ruthenium electroplated brass main plate
Bridges	Stainless steel, bevels polished by hand, micro-blasted center, circular grain on the top to highlight the bridges shapes and relief engravings
Displays	Central hours and minutes small seconds at 6 o'clock

Case and dial

Number of components	54 parts
Case dimensions	Diameter: 39,5 mm Thickness: 10,5 mm
Water resistance	3 atmospheres – 30 meters – 100 feet
Crown	Red Gold Au750 5N, White Gold Au750/Pd210 (non rhodium plated) or Stainless Steel 916L engraved with logo
Dial	Base material: Solid Sterling Silver 925
Hands	Extended Lancette hands. Flame-blued steel and mirror polished centres. Small poised seconds hand
Strap	A vast variety of leathers and colors are available
Buckle	Pin buckle made in Red Gold Au750 5N, White Gold Au750/Pd210 (non rhodium plated) or Stainless Steel 916L engraved with Grönefeld