LM PERPETUAL EVO

MB&F





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CONTENT
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1. INTRO

MB&F creations have transported their wearers to destinations that exist only on maps of the imagination: from star-cruisers to deep-sea jellyfish, Maximilian Büsser's Machines are the mechanical cartographers of the multiverse. The EVO line marked a significant evolution, with the release of the first LM Perpetual EVO pieces in 2020: their wearers became the navigators of their active lifestyle; the map was their life. On this journey, they would never have to leave their watch behind.

The LM Perpetual EVO was launched in three limited editions in zirconium, followed by a titanium edition with green CVD dial-plate, replaced in February 2024 by an ice blue dial-plate. To celebrate the opening of the MB&F LAB in Silicon Valley with retail partner Stephen Silver, the series is joined by a limited edition of 18 pieces in 18K rose gold with an ocean blue dial plate. All editions feature a closely-fitted, integrated rubber strap for the smoothest wearing experience of any MB&F Machine ever.

The 44mm case's profile emphasises openness and extreme clarity. A specially developed monobloc shock-absorbing system – "FlexRing" – that makes for the most robust Machine ever to emerge from MB&F. The LM Perpetual Engine, designed by Stephen McDonnell, an award-winning perpetual calendar that replaces traditional constructions with an innovative mechanical processor.

The MB&F collection has welcomed several complications and horologically prestigious mechanisms. In terms of combining prestige, tradition and innovation, however, Legacy Machine Perpetual has remained at the apex of MB&F watchmaking savoir-faire since it was introduced in 2015.

Although the 44mm diameter is unchanged from its 2015 iteration, the new EVO case design features a no-bezel construction, with the domed sapphire crystal fused directly to the case. The increased openness of this design highlights the equilibrium between the legibility of LM Perpetual EVO's calendar indications and the cinematic play of the engine components — surmounted by the iconic MB&F hovering balance wheel. This expansive new presentation of the LM Perpetual Engine was no simple design reconfiguration. New geometries for the sapphire crystal had to be calculated, achieving the mechanically opposing aims of maintaining structural strength and decreasing its height-to-diameter ratio. Freeing LM Perpetual EVO from the bezel also necessitated the use of a sophisticated thermal bonding system between the sapphire crystal and the case.

The previously circular pushers for adjusting the perpetual calendar have been enlarged into double-sprung oblong actuators, boosting the tactile comfort and ease of adjustment. The LM Perpetual EVO is rated at 80m of water resistance, enabled by its screw-down crown. A small, but essential, detail of implementing a screw-down crown is the débrayage of the winding stem, disengaging the crown from the winding mechanism when it is pushed in and tightened, which eliminates the chance of manually over-winding the mainspring barrel.

An additional new element of the LM Perpetual EVO is the FlexRing: an annular dampener fitted between case and movement, providing shock protection along the vertical and lateral axes. Machined from a single block of stainless steel, the dampener imparts exceptional robustness to the perpetual calendar, a function that is associated with classicism and elegance, but is arguably the most pragmatic and utilitarian of all the high complications.

When Stephen McDonnell set out to redesign the perpetual calendar for MB&F, he proposed a system that rethought the entire mechanical basis of the complication. The LM Perpetual uses a "mechanical processor" consisting of a series of superimposed disks. This revolutionary processor takes the default number of days in the month at 28 — because, logically, all months have at least 28 days — and then adds the extra days as required by each individual month. This ensures that each month has exactly the right number of days, and removes the possibility of the date jumping incorrectly. An inbuilt safety feature disconnects the quickset pushers during the date changeover, so that even if the pushers are accidentally actuated whilst the date is changing, there is no risk of damage to the movement.

In design, in technique, in spirit, Legacy Machine Perpetual EVO has been an evolution of your story with MB&F. The LM Perpetual EVO is not a watch for sports. It is a watch for life.





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2. DETAILS

CALENDRIC COMPUTATION

Conventional perpetual calendars are generally modules comprising the complication, which is fitted on top of an existing movement. The calendar indications are synchronised by a long lever running across the top of the complication and passing through the centre. As the date changes, this long lever transmits information to the appropriate components and mechanisms by moving backwards and forwards. This traditional system, while beautiful in its interplay of levers and components, is also extremely unwieldy, restricting movement construction in several key ways that would make something like Legacy Machine Perpetual a mechanical impossibility.

Created by Stephen McDonnell and premiered in 2015, the LM Perpetual Engine was — and still is — one of the most innovative perpetual calendar systems to exist in modern watchmaking.

In the traditional system, perpetual calendars assume that, by default, all months have 31 days. At the end of months with fewer than 31 days, the mechanism quickly skips through the superfluous dates before arriving at the 1st of the new month. Any manipulation or adjustment of the date during changeover can result in damage to the mechanism, requiring expensive repairs by the manufacturer. The dates can also jump or skip during changeover, negating the whole point of the perpetual calendar in the first place, which is not requiring adjustment for years. Or decades.

Legacy Machine Perpetual uses a “mechanical processor” consisting of a series of superimposed disks. This revolutionary processor takes the default number of days in the month at 28 – because, logically, all months have at least 28 days – and then adds the extra days as required by each individual month. This ensures that each month has exactly the right number of days. There is no “skipping over” redundant days, so there is no possibility of the date jumping incorrectly.

Using a planetary cam, the mechanical processor also enables quick-setting of the year so that it displays correctly in the four-year leap year cycle, whereas traditional perpetual calendar mechanisms require the user to scroll through up to 47 months to arrive at the right month and year.

The mechanical processor also enables an inbuilt safety feature that disconnects the quick-set pushers during the date changeover, eliminating any risk of damage while the date is changing.

In 2015, Legacy Machine Perpetual premiered the world’s longest balance wheel pinion, connecting the hovering balance to the escapement on the back of the engine. This technical feat has since been showcased elsewhere in the MB&F collection, namely the Legacy Machine Split Escapement.





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3. TECHNICAL SPECIFICATIONS

Legacy Machine Perpetual EVO has been created in six versions:

1. Zirconium editions: three limited editions of 15 pieces each with a choice of orange CVD dial plate, blue CVD dial plate or black PVD dial plate;
2. Titanium editions: with green CVD dial plate or icy blue CVD dial plate;
3. Silicon Valley limited edition in 18K rose gold with ocean blue dial plate.

ENGINE
Fully integrated perpetual calendar developed for MB&F by Stephen McDonnell, featuring dial-side complication and mechanical processor system architecture with inbuilt safety mechanism. Manual winding with double mainspring barrels. Bespoke 14mm balance wheel with traditional regulating screws visible on top of the movement. Superlative hand finishing throughout respecting 19th century style; internal bevel angles highlighting hand craft; polished bevels; Geneva waves; hand-made engravings.
Galvanic black dials with both SLN numerals and hands (except for the leap year and power reserve)
FlexRing: an annular dampener fitted between case and movement, providing shock protection along the vertical and lateral axes.
Screw down crown
Power reserve: 72 hours
Balance frequency: 18,000bph / 2.5Hz
Number of components: 581
Number of jewels: 41

FUNCTIONS/INDICATIONS
Hours, minutes, day, date, month, retrograde leap year and power reserve indicators

CASE
Material: Zirconium, titanium or rose gold
Dimensions: 44 x 17.5mm
Number of components: 70
Water resistance: 8ATM / 80m / 270 feet

SAPPHIRE CRYSTALS
Sapphire crystals on top and display back treated with anti-reflective coating on both faces

STRAP & BUCKLE
Rubber strap with matching titanium or rose gold folding buckle.





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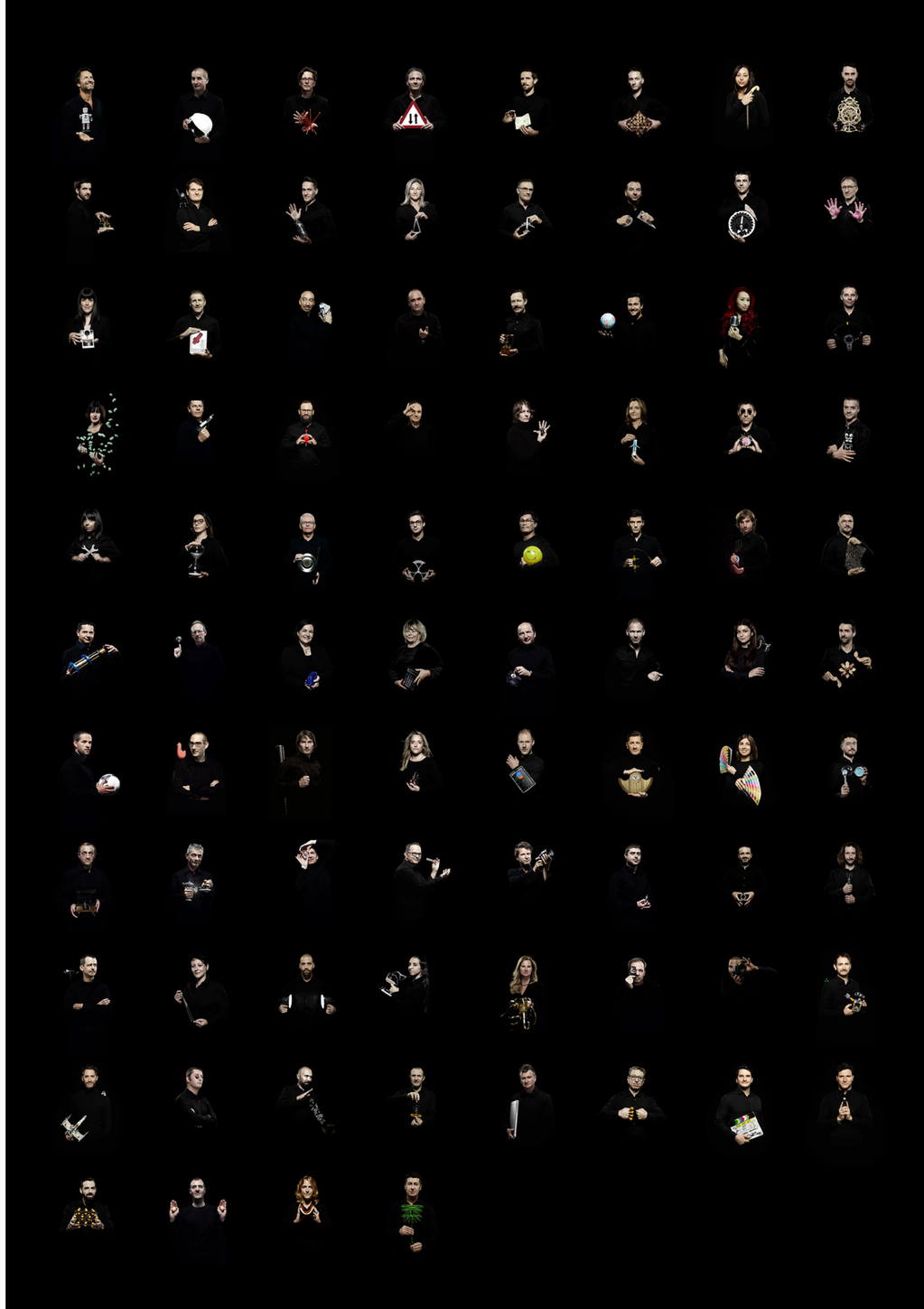
4. FRIENDS

CONCEPT
Maximilian Büsser / MB&F
PRODUCT DESIGN
Eric Giroud / Through the Looking Glass
TECHNICAL AND PRODUCTION MANAGEMENT
Serge Kriknoff / MB&F
MOVEMENT DESIGN AND FINISH SPECIFICATIONS
Stephen McDonnell and MB&F
MOVEMENT DEVELOPMENT
Stephen McDonnell, MB&F
R&D
Pierre Alexandre Gamet and Robin Cotrel / MB&F

WHEELS, BRIDGES, PINIONS AND AXIS
Jean-François Mojon / Chronode, Atokalpa, Paul-André Tendon / Bandi, Daniel Gumy / Decobar Swiss, Rodrigue Baume / HorloFab, DMP, and Le Temps Retrouvé.
BALANCE WHEEL
Andréas Kurt / Precision Engineering, Benjamin Signoud / AMECAP and Marc Bolis / 2B8
BARREL
Stefan Schwab / Schwab-Feller and Swiss Manufacturing
PERPETUAL CALENDAR PARTS
Alain Pellet / Elefil
HAND-ENGRAVING OF MOVEMENT
Glypto
FLEXRING
Laser Automation
HAND-FINISHING OF MOVEMENT COMPONENTS
Liza Bassetti Rochat and Denis Garcia / C-L Rochat
PVD/CVD-TREATMENT
Pierre-Albert Steinmann / Positive Coating
MOVEMENT ASSEMBLAGE
Didier Dumas, Georges Veisy, Anne Guiter, Emmanuel Maitre, Henri Porteboeuf, Mathieu Lecoultre, Amandine Bascoul, Loïc Robert-Nicoud, Michelly Sales and Clément Erard / MB&F
AFTER-SALES SERVICE
Antony Moreno / MB&F
PROJECT QUALITY AND CONTINUOUS IMPROVEMENT MANAGER
Nicolas Herail / MB&F
QUALITY CONTROL
Cyril Fallet, Jennifer Longuepez and Adeline Kundig / MB&F
CASE AND MOVEMENTS COMPONENTS
Romain Camplo, Jean-Baptiste Prétot, Stéphanie Carvalho Correia and Arsène Phouthone / MB&F
CASE DECORATION
Florent Bolis / DSMi
DIAL
Fabian Huguenin / Comblemine
SUPER-LUMINOVA ON THE DIALS
Frédérique Thierry / Monyco
BUCKLE
G&F Chatelain
CROWN AND CORRECTORS
Cheval Frères

HANDS
Waeber HMS
SAPPHIRE CRYSTALS
Stettler
ANTI-REFECTION TREATMENT FOR SAPPHIRE CRYSTALS
Anthony Schwab / Econorm
STRAP
Thierry Rognon / Valiance
PRESENTATION BOX
Olivier Berthon / SoixanteetOnze
PRODUCTION LOGISTICS
Ashley Moussier, Thibaut Joannard, David Gavotte, Jean-Luc Ruel, Caroline Ouvrard, Etienne Marcadet, Baptiste Rosenfeld, Maryline Leveque and Emilie Burnier / MB&F

MARKETING & COMMUNICATION
Charris Yadigaroglou, Vanessa André, Arnaud Légeret, Paul Gay and Talya Lakin / MB&F
GRAPHIC DESIGN
Benoît Rochat / MB&F
M.A.D.GALLERY
Hervé Estienne and Margaux Dionisio Cera / MB&F
SALES
Thibault Verdonckt, Virginie Marchon, Cédric Roussel, Jean-Marc Bories, Baptiste Uhl, Augustin Chivot, Mathis Brun, Victoria de Saint Anthost / MB&F
TEXTS
Suzanne Wong / WorldTempus
PRODUCT PHOTOGRAPHY
Neftali Notario and Eric Rossier
PORTRAIT PHOTOGRAPHY
Eric Rossier / MB&F





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5. GENESIS OF A CONCEPT LABORATORY

Founded in 2005, MB&F is the world's first-ever horological concept laboratory. With over 20 remarkable calibres forming the base of the critically acclaimed Horological and Legacy Machines, MB&F is continuing to follow Founder and Creative Director Maximilian Büsser's vision of creating 3-D kinetic art by deconstructing traditional watchmaking.

After 15 years managing prestigious watch brands, Maximilian Büsser resigned from his Managing Director position at Harry Winston in 2005 to create MB&F – Maximilian Büsser & Friends. MB&F is an artistic and micro-engineering laboratory dedicated to designing and crafting small series of radical concept watches by bringing together talented horological professionals that Büsser both respects and enjoys working with.

In 2007, MB&F unveiled its first Horological Machine, HM1. HM1's sculptured, three-dimensional case and beautifully finished engine (movement) set the standard for the idiosyncratic Horological Machines that have followed – all Machines that tell the time, rather than Machines to tell the time. The fiercely unconventional Horological Machines have explored themes as diverse as space and science fiction, aviation, supercars, the animal kingdom and architecture.

In 2011, MB&F launched its round-cased Legacy Machine collection. These more classical pieces – classical for MB&F, that is – pay tribute to nineteenth-century watchmaking excellence by reinterpreting complications from the great horological innovators of yesteryear to create contemporary objets d'art. Certain Legacy Machines have also given birth to EVO editions, featuring increased water and shock resistance compatible with collectors' active lifestyles. MB&F generally alternates between launching contemporary, resolutely unconventional Horological Machines and historically inspired Legacy Machines.

As the F stands for Friends, it was only natural for MB&F to develop collaborations with artists, watchmakers, designers and manufacturers they admire.

This brought about two new categories: Performance Art and Co-creations. While Performance Art pieces are MB&F machines revisited by external creative talent, Co-creations are not wristwatches but other types of machines, engineered and crafted by unique Swiss Manufactures from MB&F ideas and designs. Many of these Co-creations, such as the clocks created with L'Epée 1839, tell the time while collaborations with Reuge and Caran d'Ache generated other forms of mechanical art.

To give all these machines an appropriate platform, Büsser had the idea of placing them in an art gallery alongside various forms of mechanical art created by other artists, rather than in a traditional storefront. This brought about the creation of the first MB&F M.A.D.Gallery (M.A.D. stands for Mechanical Art Devices) in Geneva, which would later be joined by the M.A.D.Gallery in Dubai – along with MB&F Labs, which showcase a more compact selection of artists in locations like Singapore, Taipei, Paris and Beverly Hills.

There have been distinguished accolades reminding us of the innovative nature of MB&F's journey so far. To name a few, there have been no less than 9 awards from the famous Grand Prix d'Horlogerie de Genève, including the ultimate prize: the "Aiguille d'Or", which rewards the best watch of the year. In 2022, the LM Sequential EVO was awarded the Aiguille d'Or, while the M.A.D.1 RED won the 'Challenge' category. In 2021, LMX won the Best Men's Complication and the LM SE Eddy Jaquet 'Around The World in Eighty Days' was awarded in the 'Artistic Crafts' category. In 2019, the prize for Best Ladies Complication went to the LM FlyingT; in 2016, LM Perpetual won the Best Calendar Watch award; in 2012, Legacy Machine No.1 was awarded both the Public Prize (voted for by horology fans) and the Best Men's Watch Prize (voted for by the professional jury). In 2010, MB&F won Best Concept and Design Watch for the HM4 Thunderbolt. In 2015 MB&F received a Red Dot: Best of the Best award – the top prize at the international Red Dot Awards – for the HM6 Space Pirate.

