

HM11 Architect

MB&F





[The house that Max built](#)

[More about the HM11 case](#)

[More about the HM11 engine](#)

[Technical details](#)

[‘Friends’ responsible for HM11 Architect](#)

[MB&F – Genesis of a concept laboratory](#)

For more information,
please contact:
Charris Yadigaroglou
cy@mbandf.com
Arnaud Légeret
arl@mbandf.com
MB&F SA, Route de Drize 2
CH-1227 Carouge, Switzerland
+41 22 508 10 38

HM11 Architect



According to the famous Swiss architect Le Corbusier, “une maison est une machine à habiter” (a house is a machine to live in). The Machines of MB&F are habitable; the stories they tell locate us in different places or different times, and sometimes different worlds. It could be said that an MB&F Machine is not worn; it is lived.

This is not always the easiest concept to grasp, because a watch is not a house, right? A house is a house, and a watch is a watch; there is no confusion, it is black and white, right? With its latest creation, MB&F further blurs the line between the two, and the result is the grey of steel rebar, the grey of freshly sprayed concrete.

Introducing the MB&F Horological Machine N°11 Architect.

The house that Max built

Somewhere around the mid- to late 1960s, architecture entered an experimental phase, starkly different from the designs of the previous decade. Post-war buildings were pragmatic, rectilinear forms, hastily erected to fulfil a purpose. But then a small yet reactive movement began taking hold, one that was surprisingly humanistic in its approach, though not in a way that architectural scholars would use the term.

It was humanist in the sense that it moulded space around the form of a human body, the spherical scope of vision perceived by the human eye, the radial ambit of human limbs moving through the air, the roundness of the breath that inflates our lungs and creates ephemeral vapour halos on car windows in winter.

These architects, some of whom eschewed that title and instead called themselves habitologists, built houses which appeared as if they had been exhaled out of the earth, or as if the land had flexed its fingers and forgotten to curl them fully back up again. They bubbled, they undulated, they arched like an extended sinew. And when Maximilian Büsser, founder of MB&F, looked at one of these houses, he thought, “What if that house was a watch?”

A central flying tourbillon forms the heart of the house, pushing skyward under a double-domed sapphire roof. Fittingly, for a mechanism that is spatially and functionally at the origin point of the watch, its quatrefoil-shaped upper bridge recalls the shape of clerestory windows in some of humanity’s greatest temples to its Creator, or perhaps the shape of a zygote undergoing cell division at the moment of conception. From



this spinning core, four symmetrical volumes reach outwards, creating the four parabolic rooms of the house that is HM11 Architect.

Turn the house to access each room; the entire structure rotates on its foundations. The 90° angle of offset between each room means that you can position HM11 with one of its rooms directly facing you, or with one of the corridors of the house running towards you and rooms obliquely to each side. This versatility in display orientation also has a practical use. HM11 Architect is an energy-efficient construction – each 45° clockwise turn is signalled by a tactile click under the fingers, and delivers 72 minutes of power directly to the barrel. After 10 complete rotations, HM11 is at its maximum autonomy of 96 hours.





[The house that Max built](#)

[More about the HM11 case](#)

[More about the HM11 engine](#)

[Technical details](#)

[‘Friends’ responsible for HM11 Architect](#)

[MB&F – Genesis of a concept laboratory](#)

For more information,
please contact:
Charris Yadigaroglou
cy@mbandf.com
Arnaud Légeret
arl@mbandf.com
MB&F SA, Route de Drize 2
CH-1227 Carouge, Switzerland
+41 22 508 10 38

HM11 Architect



While all four rooms share a similar interior – glossy white walls with a full sapphire crystal window pane – each of them has a different function. The time room is where you go to retrieve the hours and minutes. Rod-mounted orbs serve as hour markers, using larger and lighter polished aluminium orbs for each quarter and smaller and darker polished titanium orbs for the rest. Red-tipped arrows point to the hours and minutes, providing a rare accent of colour to the otherwise Spartan time room.

The next room, 90° to the left, is where the power reserve display resides. Following the design schema established by the time room, rod-mounted orbs are paired with a red-tipped arrow to show how much running autonomy is left in the HM11 barrel. Proceeding clockwise, the five orbs increase in diameter until the final polished aluminium orb, 2.4mm in diameter, indicating the full 96 hours of power reserve.

An instrument rarely seen in horological contexts (though familiar in domestic ones) is installed in the next room – a thermometer. HM11 uses a mechanical system of temperature indication with a bimetallic strip, which may seem quaint in this age of instant high-precision electronic thermometers and thermostat-regulated smart homes. This mechanical system functions without any external energy input and is available in Celsius or Fahrenheit display variations.

One last room remains, a white void, its only aesthetic feature a tiny round badge engraved with the MB&F battle-axe motif, set into the sapphire-crystal window. But this seemingly empty space functions as the time-setting crown of HM11. Pull on the transparent module, and it opens with a click. It is the front door and key to HM11; you turn it to relocate yourself in time.

While the peripheral rooms of HM11 are surrounded by exterior walls of polished grade-5 titanium, the central atrium is open to the light, covered by a double-arched sapphire crystal roof. Underneath, the in-house HM11 engine hums away, its cadence set by the 2.5Hz (18,000 vph) balance of the flying tourbillon. Plates and bridges are coloured with a physical vapour deposition (PVD) process, coming in ozone blue or the warm solar hues of 5N gold, limited to 25 pieces each for the two launch editions of HM11.



MB&F





[The house that Max built](#)

[More about the HM11 case](#)

[More about the HM11 engine](#)

[Technical details](#)

[‘Friends’ responsible for HM11 Architect](#)

[MB&F – Genesis of a concept laboratory](#)

For more information,
please contact:
Charris Yadigaroglou
cy@mbandf.com
Arnaud Légeret
arl@mbandf.com
MB&F SA, Route de Drize 2
CH-1227 Carouge, Switzerland
+41 22 508 10 38

HM11 Architect



More about the HM11 case

The houses that sparked the genesis of Horological Machine N°11 Architect in Max Büsser's mind all had an organic quality about them. They had forms that were playful, that swelled and bulged out in unexpected places. How does one begin to translate a thought experiment into a real creation? How do you answer the question of "What if a house was a watch?" The first blueprints were made in 2018 by Eric Giroud, keystone of the MB&F design process, whose architectural background clearly informs the layout of HM11. A central atrium that gives onto four peripheral rooms. Transparency and light. Interior volumes that interact with exterior perspectives. Curvilinear morphology, primitive in its affinities with the human form, futurist in its unboxed vision.

The materials chosen to represent the two launch editions of HM11 Architect are titanium and sapphire crystal. Both are known for being extremely challenging to machine, such that it was only within the last two decades that their use became feasible in watches of complex form. The lower half of the HM11 case is a highly three-dimensional Grade-5 titanium shell with different inner and outer surface profiles. The upper caps of each of the four HM11 rooms are machined separately, since they can be affixed only after the movement has been installed. Close to a week is required to complete the HM11 case, comprising all the operations of milling, finishing and quality control.

The Horological Machines of MB&F have established a reputation for increasing the sophistication of shaped sapphire crystal components used in watchmaking, and Horological Machine N°11 is no exception. There are six externally facing sapphire crystal components in the case of HM11, the largest of which consists of two separate sapphire crystal domes stacked concentrically to form the transparent atrium roof of HM11. Dome skylights feature prominently in 1970s residential architecture, a result of that period's fascination with injection-moulded acrylics and adventurous design.

An unprecedented feature in watchmaking is the see-through crown, close to 10mm in diameter, that allows an unimpeded view directly into the movement. A crown of this size in sapphire crystal, whilst undeniable in its aesthetic impact, comes with specific technical challenges to be overcome. As the primary point of ingress to the movement, a watch crown must be equipped with gaskets that prevent water or dust particles from entering the watch and compromising its performance. Conventional watch crowns require

gaskets that measure around 2mm in diameter, which in most instances provide adequate protection. Such gaskets are primarily made from rubberised polymers, and create friction when the crown is turned, but in negligible quantities that go unnoticed during normal use.

In Horological Machine N°11, a conventional gasket sized in proportion with the crown five times bigger would have generated so much friction that the crown would essentially have braked and been unusable. Instead, two sets of gaskets are used, similar to a double airlock security system in spacecraft or submersibles. Towards the outer edge of the watch, a large low-friction gasket creates just enough of a seal to stop dust from entering via the sapphire-crystal window. A watertight gasket, much smaller in diameter, is located closer to the centre of the movement, surrounding the crown axis. A total of 8 gaskets are dedicated to the sapphire crown alone.

Ensuring the integrity of the case and the movement within are in fact a total of 19 gaskets, necessitated by the complexity of the case and its various external components. The largest gasket used in HM11 Architect is of O-ring construction, shaped in all three dimensions and placed between the case and the bezel. A custom mould was cast for this one gasket; together with the 18 others, it delivers a purpose-engineered solution as a guarantee that the HM11 house remains safe from the elements, with a water resistance rating of 2ATM (20 metres).

The "bubble houses" of the mid- to late 20th century were enabled by evolutions in building technology, using materials and methods that seemed wildly implausible at first – or at least until someone actually made a house with one. And so, it is with the MB&F Horological Machine N°11 Architect. New things often require new ways. True change starts when you think differently, but it endures when you live differently.

Despite its 3-dimensional, architectural conception and the complexity of its movement, the HM11 case surprisingly measures only 42mm in diameter. It sits sleekly and comfortably on the wrist, thanks to the curved case feet that are also the strap attachment points. These allow the watch to fit a variety of wrist sizes – and also provide stability when the case is turned to wind the barrel.





[The house that Max built](#)

[More about the HM11 case](#)

[More about the HM11 engine](#)

[Technical details](#)

[‘Friends’ responsible for HM11 Architect](#)

[MB&F – Genesis of a concept laboratory](#)

For more information,
please contact:
Charris Yadigaroglou
cy@mbandf.com
Arnaud Légeret
arl@mbandf.com
MB&F SA, Route de Drize 2
CH-1227 Carouge, Switzerland
+41 22 508 10 38

HM11 Architect



More about the HM11 engine

At the literal and conceptual heart of the HM11 Architect engine are two words: power and efficiency.

While the barrel forms the repository of all power in any mechanical watch, the ultimate source of this energy is the person whose wrist the watch occupies. The barrel is invested with energy through incidental kinetic action (in conjunction with an automatic winding system) or deliberate manual input (via the winding crown). These two methods of supplying energy are combined in HM11. Winding the watch can be both incidental – a secondary effect of changing the room orientation – and deliberate. The action itself is amplified; instead of turning a crown of small diameter, you turn the watch itself, adding greater weight to the relationship between HM11 and its wearer.

A standard watch with a power reserve of 48 hours requires between 20 and 30 full turns of the crown to be fully wound. With HM11, its 96 hours of power reserve can be completely rewound after just 10 full clockwise rotations of the case.

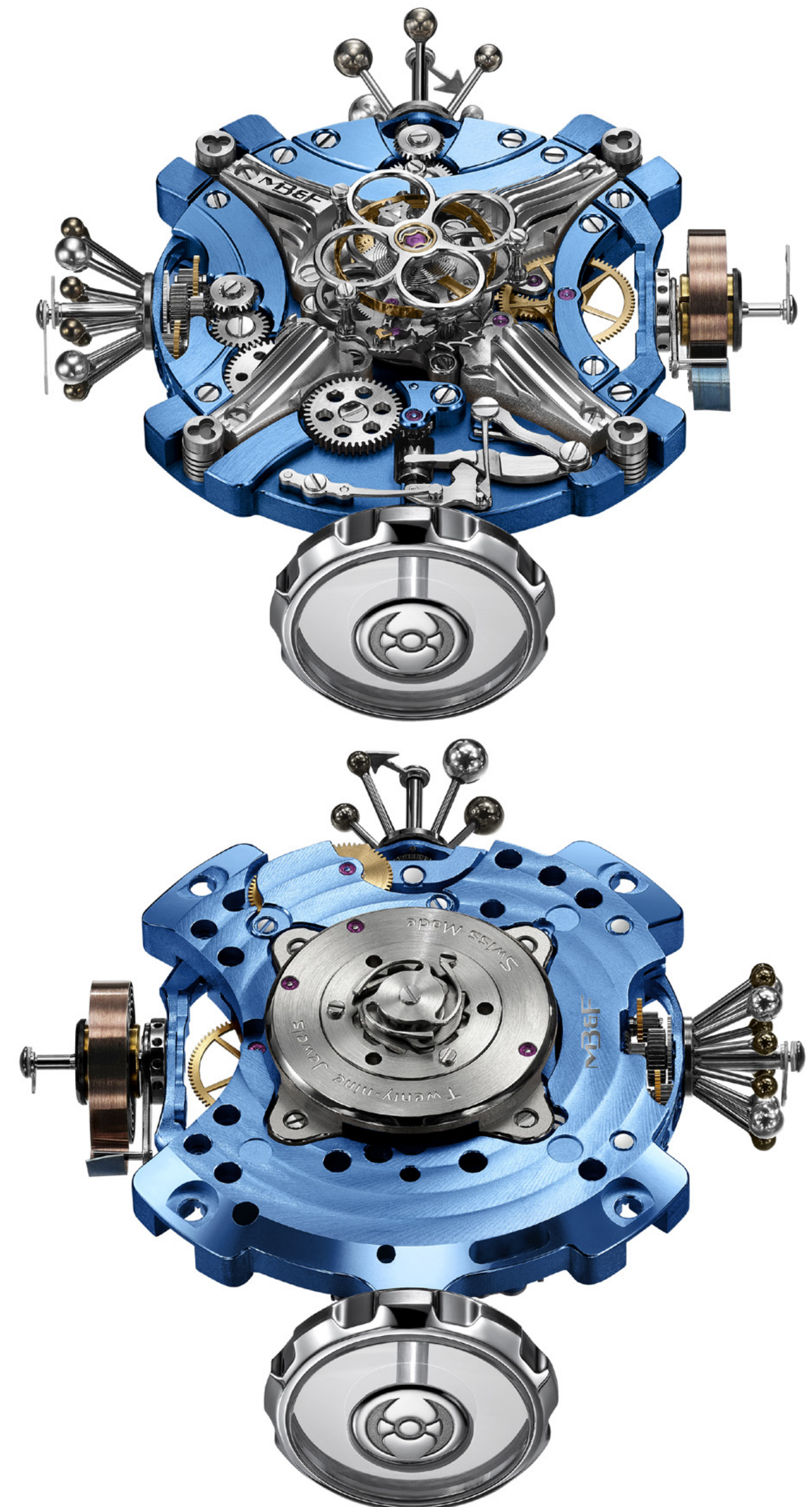
Relocating the winding action from a small-diameter component like a crown to the case itself also raises the upper limit of torque you can apply to the winding mechanism. It's simple physics – increasing the diameter of a rotating element reduces the energy required to turn it. This means that the mainspring barrel of HM11 Architect can be rewound more directly and more quickly.

The flying tourbillon that controls the timekeeping ability of HM11 Architect is today a key part of the mechanical identity of MB&F, appearing in Horological Machines 6 and 7, as well as Legacy Machine FlyingT. Its large balance wheel boosts the overall inertia of the system, offering benefits in terms of chronometric stability, but tourbillons (and flying tourbillons in particular) are vulnerable mechanisms, susceptible to shocks that can interfere with performance. Conventional shock-protection solutions in watchmaking are designed to protect specific components, notably wheel pivots, whereas general shock-proofing solutions that shield the entire movement are uncommon. Rather than applying additional shock-proofing elements to individual watch components, HM11 incorporates a full-system dampener, consisting of four high-tension suspension springs that sit between the movement and lower-case shell.



These are not simple coiled springs made from wire, but custom springs laser-cut out of a low-carbon high-hardness steel tube with chrome finish. The specific alloy composition and crystalline structure of this steel provide exceptional resistance to wear, while its finish and cylindrical form impart aesthetic value – despite the fact that the springs are completely hidden from view. Such springs are used nowhere else in modern watchmaking except at MB&F, and are derived from technologies designated primarily for the aerospace industry.

Importing new technology from other industries may not be an uncommon practice in modern watchmaking, but importing old technology is certainly a rarer occurrence. The mechanical thermometer of HM11 Architect runs on the same centuries-old principle of exploiting differences in thermal expansion coefficients between materials, but its utilisation here constitutes a novel and unusual watchmaking function. A bimetallic strip is formed into a compact spiral and coupled with a rack and lever such that the expansion and contraction of the spiral changes the rotational angle of the rack, moving the lever which in turn controls the motion of the temperature indication hand. Whilst traditional bimetallic strips were made from laminated copper and steel, modern manufacturers of mechanical thermometers have improved the precision and reliability of their instruments with proprietary alloys. The HM11 mechanical thermometer measures temperatures ranging from -20–60°C (0–140°F), with display variations available in the two most common temperature scales.





HM11 Architect



Technical details

HM11 Architect is available:

- in titanium with blue dial plate limited to 25 pieces;
- in titanium with red gold dial plate limited to 25 pieces.

Engine

Three-dimensional horological engine featuring bevel gears, composed of a flying tourbillon, hours and minutes, a power reserve indicator and temperature measurement, developed in-house by MB&F.

Mechanical movement, manual winding (by turning the entire case clockwise).

Power reserve: 96 hours

Balance frequency: 18'000bph/2.5Hz

Plates: Blue and 5N PVD treatment

Number of movement components: 364 components

Number of jewels: 29 jewels

Functions/indications

Hour and minutes

Power reserve

Temperature (-20 to 60° Celsius, or 0 to 140° Fahrenheit)

Case

Grade 5 titanium

Display markers: conical rods in stainless steel (Ø 0.50mm to 0.60mm), darker beads in polished titanium and lighter beads in polished aluminium (Ø 1.30mm to 2.40mm).

Dimensions: 42mm diameter x 23mm height

Number of case components: 92 components

Water resistance: 20m / 68' / 2ATM

Sapphire crystals

Sapphire crystals on top, back, and on each chamber-display treated with anti-reflective coating on both faces
Sapphire crown

Strap & Buckle

Rubber strap – white for the blue model and khaki green for the red gold model

Titanium folding buckle.

[The house that Max built](#)

[More about the HM11 case](#)

[More about the HM11 engine](#)

[Technical details](#)

[‘Friends’ responsible for HM11 Architect](#)

[MB&F – Genesis of a concept laboratory](#)

For more information,
please contact:
Charris Yadigaroglou
cy@mbandf.com
Arnaud Légeret
arl@mbandf.com
MB&F SA, Route de Drize 2
CH-1227 Carouge, Switzerland
+41 22 508 10 38





HM11 Architect



'Friends' responsible for HM11 Architect

Concept: Maximilian Büsser / MB&F

Product design: Eric Giroud

Technical and production management: Serge Kriknoff / MB&F

Movement design and finish specifications: MB&F

Movement development: Thomas Lorenzato and Robin Cotrel / MB&F

Case development: Thomas Lorenzato and Robin Cotrel / MB&F

R&D: Thomas Lorenzato / MB&F

Methods and laboratory: Maël Mendel and Anthony Mugnier / MB&F

Wheels, pinions, movement, axis components: Paul-André Tendon / Bandi, Daniel Gummy / Decobar, Le Temps Retrouvé, NTE

Chamfered wheels: Roud'hor

Plates: Benjamin Signoud / AMECAP

Bridges: Rodrigue Baume / HorloFab, 2B8

Hand-finishing of movement components: Decotech, D-Tech, DSMI

PVD-treatment: Pierre-Albert Steinmann / Positive Coating

Movement assembly: Didier Dumas, Georges Veisy, Anne Guiter, Emmanuel Maitre, Henri Porteboeuf, Mathieu Lecoultre and Amandine Bascoul / MB&F

After-Sales service: Antony Moreno / MB&F

In-house machining: Alain Lemarchand, Jean-Baptiste Prétot, Stéphanie Carvalho Correia and Yoann Joyard / MB&F

Quality Control: Cyril Fallet and Jennifer Longuepez / MB&F / MB&F

Case: AB Product

Case decoration: AB Product

Beads and rods: NTE

Buckle: G&F Chatelain

Crown: Boninchi

Hands: Waeber HMS

Sapphire crystals: Novocrystal

Metallisation and anti-reflective coating: Econorm

Strap: Multicuirs

Presentation box: Olivier Berthon / SoixanteetOnze

Production logistics: Ashley Moussier, Thibaut Joannard, David Gavotte, Sophie Ermel, Maryline Leveque and Emilie Burnier / MB&F

Marketing & Communication: Charris Yadigaroglou, Vanessa André, Arnaud Légeret, Paul Gay and Talya Lakin / MB&F

Graphic design: Sidonie Bays / MB&F

M.A.D.Gallery: Hervé Estienne and Margaux Dionisio Cera / MB&F

Sales: Thibault Verdonckt, Virginie Marchon, Cédric Roussel, Jean-Marc Bories and Augustin Chivot / MB&F

Texts: Suzanne Wong / Worldtempus

Product photography: Laurent-Xavier Moulin and Eric Rossier

Macro shots and workshop photography: Fabien Nissels

CGI visuals: Ezequiel Pini / Six N. Five

Film: Pascal Girardin and Suleyman Yazki / Freestudios, Onur Senturk / Onur Senturk TV

Portrait photography: Régis Golay / Federal

Website: Stéphane Balet / Ideative

[The house that Max built](#)

[More about the HM11 case](#)

[More about the HM11 engine](#)

[Technical details](#)

['Friends' responsible for HM11 Architect](#)

[MB&F – Genesis of a concept laboratory](#)

For more information,
please contact:
Charris Yadigaroglou
cy@mbandf.com
Arnaud Légeret
arl@mbandf.com
MB&F SA, Route de Drize 2
CH-1227 Carouge, Switzerland
+41 22 508 10 38

MB&F





HMI1 Architect



MB&F – Genesis of a concept laboratory

Founded in 2005, MB&F is the world's first-ever horological concept laboratory. With almost 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, HMI. HMI'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 Horological Machines have explored space (HM2, HM3, HM6), the sky (HM4, HM9), the road (HM5, HMX, HM8) and the animal kingdom (HM7, HMI0).

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. LM1 and LM2 were followed by LM101, the first MB&F Machine to feature a movement developed entirely in-house. LM Perpetual, LM Split Escapement and LM Thunderdome broadened the collection further. 2019 marked a turning point with the creation of the first MB&F Machine dedicated to women: LM FlyingT; and MB&F celebrated 10 years of Legacy Machines in 2021 with the LMX. 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 followed by M.A.D. Galleries in Taipei, Dubai and Hong Kong.

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.

[The house that Max built](#)

[More about the HMI1 case](#)

[More about the HMI1 engine](#)

[Technical details](#)

['Friends' responsible for HMI1 Architect](#)

[MB&F – Genesis of a concept laboratory](#)

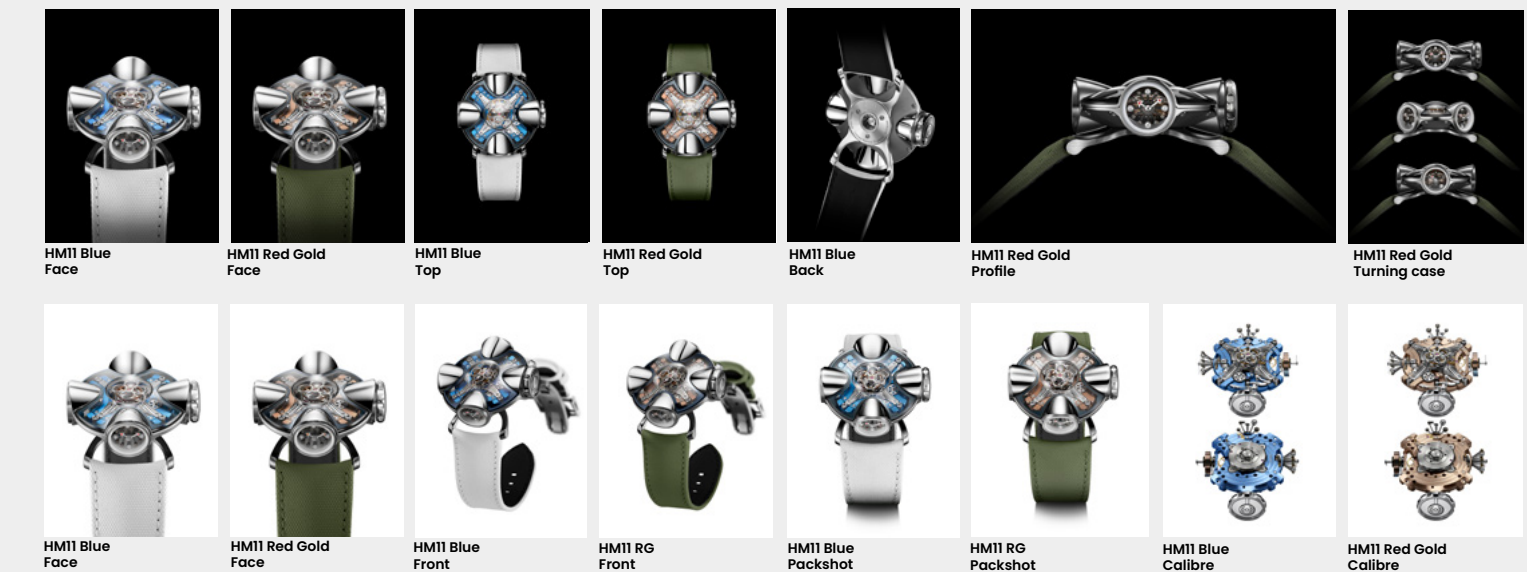
For more information, please contact:
Charris Yadigaroglou
cy@mbandf.com
Arnaud Légeret
arl@mbandf.com
 MB&F SA, Route de Drize 2
 CH-1227 Carouge, Switzerland
 +41 22 508 10 38

www.mbandf.com

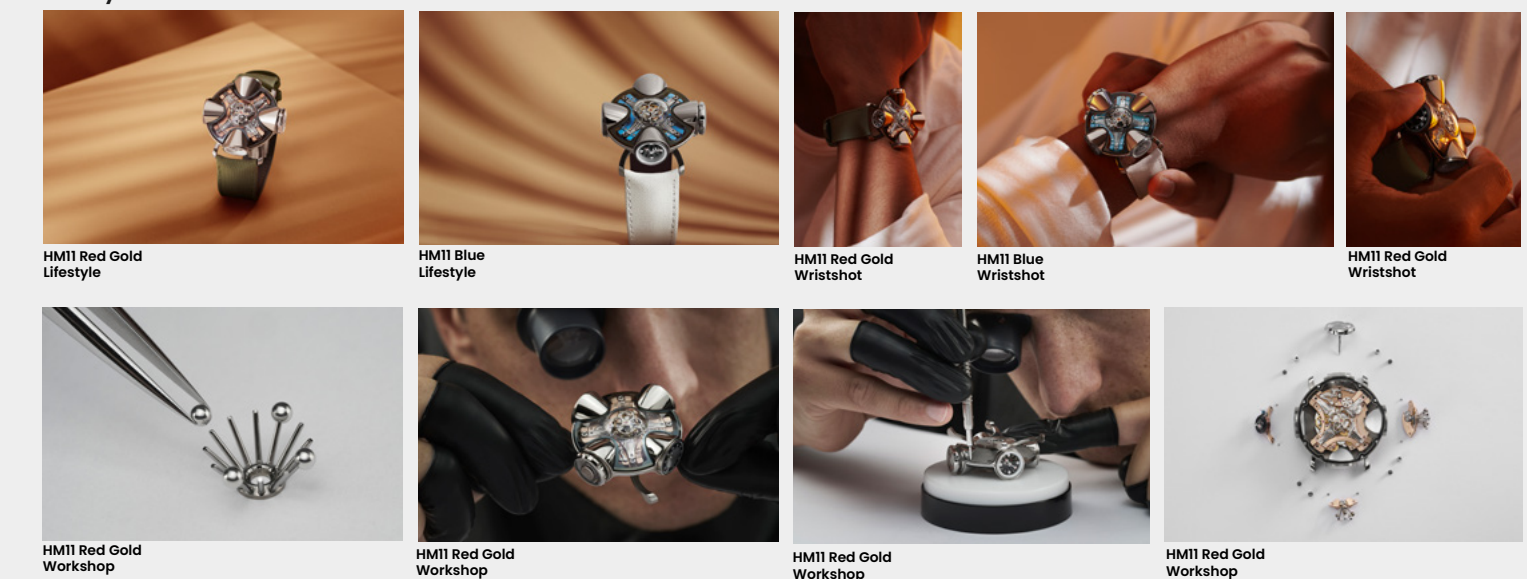
Folder content

[Click here to access the press release in other languages](#)
 + [all product images \(low and high resolution\).](#)

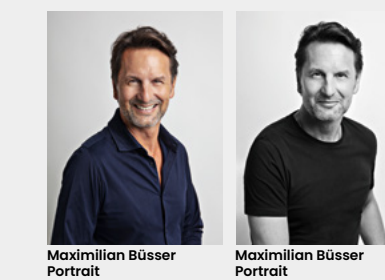
The machine



Lifestyle



Maximilian Büsser



The Friends



Film



Follow us on social media @mbandf



WECHAT