

# Gmt

GREAT MAGAZINE OF TIMEPIECES



# XXXL



# MB&F Horological Lab

By Brice  
Lechevalier,  
editor

# Editor's Letter

MB&F

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The HM3 Engine - a true kinetic sculpture

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### "FRIENDS" UNITED

**Our sincere thanks to Maximilian Büsser** for counting GMT among his Friends, and for entrusting us with the honor and the pleasure of presenting his concept and his collection through this insert. Max is one of the people to whom contemporary Haute Horlogerie is deeply indebted. Haute Horlogerie inherently implies quality and not quantity, innovation rather than deviation, and imagination instead of ostentation. Already during the Harry Winston period, when GMT was born on the threshold of the 21<sup>st</sup> century, his visionary spirit had powerfully impressed our editorial team, along with a whole generation of devotees of avant-garde timepieces. As a privileged witness to the launch into orbit of the Horological Machine N°4, GMT is naturally proud to confirm its status as a Friend within the MB&F constellation.

Brice Lechevalier | publishers



HM3: the Team behind the Machine

## THE CREATIVE LAB

The launch of MB&F in July 2005 heralded the beginning of a new era in haute horlogerie. After 14 years managing prestigious watch brands, Maximilian Büsser's interest in continuing business as usual faded. Evolution was out; Büsser wanted a complete rupture with the past. His vision for MB&F was not another watch brand but a creative horological laboratory.

The staid world of fine watchmaking was shaken by the vibrations unleashed by Horological Machine N°1, MB&F's first timepiece and, just as Büsser expected (and even hoped for), the emotions induced ranged the full



**"Creativity is not a democratic process.**

I listen to many exceptional people, sometimes taking their views into account, sometimes not, but the final decision is mine alone. MB&F's Machines are not designed by committee"

gamut from abhorrence to awe. Five years on and each new avant-garde three-dimensional Machines takes us ever further from our horological comfort zones.

In forging the concept of "Friends", Büsser's intention was to transparently recognize and credit those involved in realizing his dream. There was no illusion that the architectural kinetic art he was creating would be widely appreciated by the masses, in fact, he was fully aware that by uncompromisingly making exactly what he wanted that the vast majority of collectors would not understand. But it soon became obvious that MB&F's path was soon joined by ever increasing numbers of people who appreciated the direction it was taking. Nobody knows the destination because MB&F evolves as Büsser does.

By Brice  
Lechevalier,  
editor

# Interview

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I am not a  
“static” creator  
who procrastinates  
in front of a blank  
sheet of paper”



# Maximilian Büsser Owner & C.C.O.



## Business Card

### MAXIMILIAN BÜSSER

**1967:** born in Milano (Italy)

**1991:** graduates with a Masters in Micro-technology Engineering from the Swiss Federal Institute of Technology, Lausanne.

**1992:** joins the senior management of Jaeger-LeCoultre from Product Management & Development to Sales & Marketing for Europe.

**1998:** appointed managing director of Harry Winston Rare Timepieces in Geneva.

**2005:** creates the world's first horological creative lab: MB&F (Maximilian Büsser & Friends), in which he is now partnered by Serge Kriknoff



**T**his creative individual who never fails to impress draws his inspiration not only from the world of space as portrayed in books and movies, but also from the people he meets in his constant worldwide travels. Even although half a decade has gone by since the first Horological Machine went into orbit, Max Busser feels as if he still has his finger on the launch button and that his destiny awaits him light years from here.

**Does your “frog” come from the same creative universe as that which spawned your first models?**

The « Frog » is a very mischievous interpretation of our HM3. It takes the piece to a different level and mixes multiple inspirations such as spaceships, amphibians and the aliens of “Mars Attacks”. In fact, at the beginning of 2008 when I first had the prototype of the original HM3 in hand, I thought it truly a very elegant timepiece (I know this will seem rather weird as a statement for most readers), and I had a strong urge even then to morph it into a “wacky” version.

It is very liberating to be able to create very serious horology without taking ourselves too seriously. And this has had an unexpected side effect in helping attract and federate some of the most gifted artisans in Switzerland. Five years ago, some of the first artisans we contacted were initially taken aback, now these same people are encouraging us to push our, and therefore their, boundaries much further!

“It is very liberating to be able to create very serious horology at MB&F without taking ourselves too seriously”

**With the number of watches available per limited series getting even smaller, are your customers grateful to you for the privilege of belonging to an even more exclusive club ?**

Not many people believed us at first when we claimed that MB&F was not about growth. Now it is clear to all – our goal is unadulterated creativity - and as such, each series needs to be kept very low. Over the last three years we will have crafted more or less the same number of Machines each year (143 Machines in 2009), even though the demand and awareness has increased tenfold.

Practically 50% of all Machines sold to date are on the wrist of someone who owns at least two of them. That is a mind-boggling statistic which reflects how faithful our clients are – one more reason to thank them by keeping our production series as small as possible.

**You travel the world for much of the year; do these travels nurture your creativity?**

I am not a “static” creator who procrastinates in front of a blank sheet of paper. I need to travel the world; I need to meet amazing people; I need to discover new art and culture. But at the same time I need moments of peace and quiet to synthesize the ideas that have been swirling in my head.

**Which encounters prove the most enriching?**

Meeting other creators and artists. Listening to them explain how they started, how they react to others, why they create. Each artist has had an incredibly rich and diverse (or sometimes tough) life that has brought him or her to want to express their own vision, rather than follow others. Until very recently I would never have coined myself an “artist”, due to my engineering background, a Swiss upbringing, and a need to please others for the first fifteen years of my career. Nothing seemed to bring me close to the world of art. And then something clicked and I decided to create for myself, to forget about what others think and like, to live my own life and not the one other people expected me to live. I cannot paint, I cannot sing, I cannot pickle sharks in formaldehyde, but in my own way I have sculptured three-dimensional horological machines and brought them to life.

**What place do women hold within the MB&F world?**

We do not create for women, because we do not create for men! Our Machines are completely gender neutral, and are created first and foremost for ourselves. A woman or a man will react to our creations not because of their gender, but because of their personality and personal history.

**The galaxy of Friends is now into its fifth year; how do you feel looking back on the ground you have covered? Where do you see yourselves in five years?**

In an amazing twist of faith, we are exactly where I imagined we would be five years ago when I launched MB&F. But because it is a human adventure, the road to get here was completely different to what I had imagined. I have learned so much over this journey: about myself and about those around me. Some of the people around me have awed me in how extraordinary and generous they have been; others seriously disappointed me when they showed their true colours. In creating and building our little Concept Lab we have concentrated so much emotion and experience that it sometimes seems like ten or fifteen years, and yet, at the same time it feels as if we just started scratching the surface.

Because MB&F is not going to grow and so have to appeal to the mass-market, it allows us to develop more or less whatever crazy creative projects we have in mind. Our radical creations have generated a certain pressure to amaze always more, but that is not our concern. We follow our own path despite whatever others may think.



## HOROLOGICAL MACHINE N°1

**Horological Machine N°1** was the Machine that upset the status quo. HM1 signalled rupture. The world was expecting something different from MB&F, something exciting, but they were still expecting a recognizable watch. The architectural three-dimensional volume of the case, the dual dials over multiple levels, and the figure-eight movement with raised central tourbillon was an affront to many raised on a diet of watches with round movements in round cases.

HM1 is an extremely sophisticated time-piece on many levels, including visually, technically and emotionally. It is as much, if not

**The HM1 Engine** - Only one hundred of them will ever see the light

more, art and sculpture as micro engineering. By designing and constructing its first three-dimensional machine MB&F broke free of the constraints imposed by traditional horology.

Horological Machine N°1 features hours and minutes on separate dials, a raised central one-minute tourbillon, an incredible seven-day power reserve from four massive mainspring barrels, and both automatic and manual winding. It took 376 components and 81 functional jewels to realize the movement's radical design and construction. The case alone consists of 48 parts!

The most visual technical element of the movement is the rotating one-minute tourbillon on top of the dial - Horological Machines are three-dimensional structures, therefore the tourbillon is elevated to create its own centre stage. But it was the four massive mainspring barrels that dominated HM1's design and construction. Using the



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### HM1

**MOVEMENT:** self-winding mechanical movement with raised central one-minute tourbillon, separate hours and minutes, 22K Gold BattleAx winding rotor and 4 mainspring barrels in parallel (376 parts in total)  
**CASE:** 18K white gold, 18K red gold, black PVD coated 18K white gold or titanium, display back with anti-reflective treatment on single face. **SIZE:** length 41mm, width 64mm, height 14mm **DIAL:** either silver/ruthenium (silver), ruthenium/silver (dark grey) or open (HM1-Black and HM1-RS) **FUNCTIONS:** Hours on left dial, minutes and 7-day power reserve on right dial  
**STRAP:** Hand-stitched alligator with 18K Gold custom-designed deployment buckle



mainspring barrels in parallel - two on each side of the movement - enabled MB&F to reduce the torque of each mainspring, thus improving isochronism, decreasing wear and increasing longevity... all while maintaining an enormous seven days' reserve of power. The regulating system is actually driven from two sides - a world's first in a production movement! But the barrels are not the only mechanical system needing to communicate across a constricted divide: the hours on the left must synchronize with the minutes on the right, both for time-



keeping and time-setting. This necessitated the development of an over-sized wheel centrally located under the dial. Extremely flat and mirror-polished, this wheel is cleverly supported by floating it between two layers of precision adjusted jewels.

HM1 was originally available in white or red gold and limited editions in black (HM1-Black) and titanium (HM1-Ti) have since completed the collection. Only 100 HM1 movements were made over three years, ensuring the rarity of this pioneering Horological Machine.

**“Whether traditional or avant-garde, a beautiful watch to me is a work of art representing the soul of its creator”**

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**HM2-CTi:** brushed black ceramic highlights the architecture of the titanium components, limited edition of 66 pieces

**The Engine of HM2:** high-end horology meets science fiction in an unparalleled work of mechanical art



## HOROLOGICAL MACHINE N°2

**For those under the impression** that HM1 provided a clue to Büsser's direction with MB&F, Horological Machine N°2, while instantly identifiable as pure MB&F, was as strikingly ground breaking as the first machine. With its flying buttresses, portholes shaped dials, sliding crown guard, and a complex case – 100-plus components - that it could only be developed with the innovative modularity first seen with HM1, HM2 took MB&F even further into horologically uncharted territory.

Horological Machine N°2 is a holistically conceived and engineered three-dimensional timekeeping machine featuring the world's first mechanical movement offering instantaneous jumping hours, concentric retrograde minutes, retrograde date, bi-hemisphere moonphase and automatic winding.





The titanium flying buttresses of the case back reveal a unique architecture and the 22K gold battle ax winding rotor



HM2-CR, ceramic, red gold & titanium, Limited edition of 33 pieces



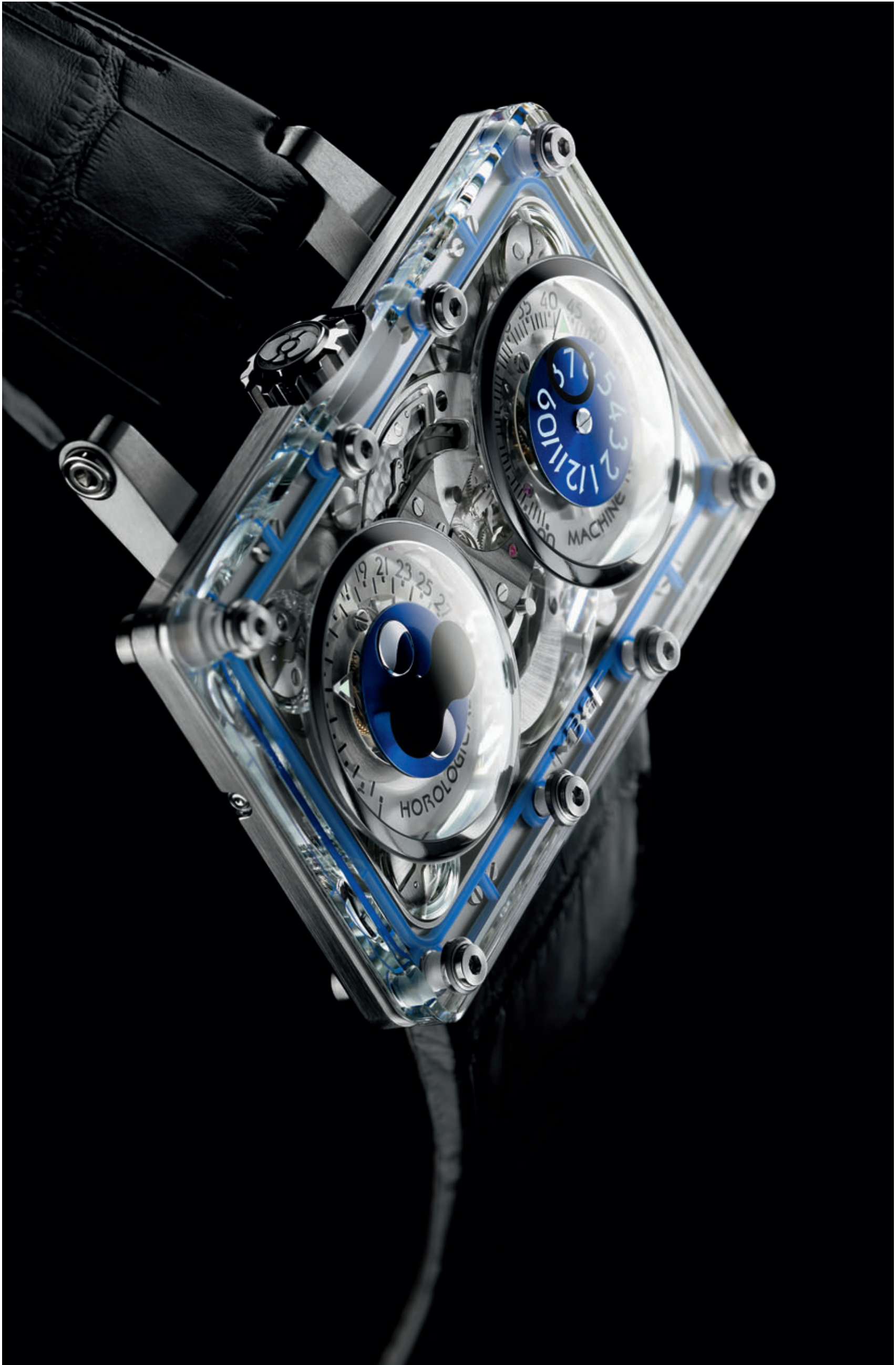
Horological Machine N°2: 102 components make up the most complex case in watchmaking history. The functions of the movement include a jumping hour coupled with a retrograde minute indicator

Each of HM2's twin portholes offers the viewer a contextually different approach to time. Conventional -if that not an oxymoron used in any regard to MB&F - time is indicated in the right-hand porthole by jumping hours and concentric retrograde minutes, while a calmer version of time is offered in the left porthole by means of a retrograde date and bi-hemisphere moon phase.

**“As a child I was always playing and making things with Meccano and Lego, but as soon as I finished something I would deconstruct it and begin again. It was the conceiving and building I loved, and that, I think, is at the heart of MB&F, the undiluted pleasure of creation”**

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### HM2-Sapphire Vision

**MOVEMENT:** self-winding mechanical movement with blued 22K rose gold battle-axe rotor, Jean-Marc Wiederrecht/Agenhor calibre designed functionality (349 parts in total) **CASE:** sapphire and titanium (120 parts) **SIZE:** 59mm x 38mm x 13mm  
**DIALS:** Brushed sapphire with metallic blue disks  
**FUNCTIONS:** Retrograde date and bi-hemisphere moon phase on left dial, jumping hours and concentric retrograde minutes on right dial **STRAP:** black hand-stitched alligator with 18K gold and titanium custom designed deployment buckle **LIMITED EDITION:** 25 pieces

The sensational HM2-SV (Sapphire Vision), a limited edition of just 25 pieces featuring a completely transparent sapphire top plate with electric blue highlights and a titanium back, was launched in 2010. The powerful visual impact of MB&F's Horological Machines can sometimes overshadow the flawless fine finishing and decoration that goes into the movements. HM2-SV put that finishing on display to spectacular effect.



With hardness second only to diamond, zero porosity and low chemical reactivity, sapphire has many attractive properties; however, those very same features make it immensely difficult to work and requires extremely sophisticated diamond tools. The milled opaque surface then has to be meticulously polished to obtain its final brilliant clarity. To ensure maximum light and visibility to the engine, the two dials are in lightly brushed translucent sapphire disks that offer both legibility and luminosity.

**“MB&F creates Horological Machines that tell the time, we do not create them to tell the time”**



## HOROLOGICAL MACHINE N°3

While HM2 looked to many to be relatively normal - in a completely abnormal kind of way - after the shock and awe of HM1, Horological Machine N°3 left no doubt that MB&F was in an alternate reality when it came to fine watchmaking as contemporary art. The press release for HM3 began, "Warning! Horological Machine N°3 is so far outside existing timekeeping references that it may cause sensory overload." It might have also warned those with a weak heart or a preference for the comfort of traditional timekeepers to not stay far from a defibrillator and medical attention.



The titanium back reveals the two ceramic ball bearings

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HM3 is available in two versions: 'Sidewinder', with cones lined perpendicular to the arm; and 'Starcruiser', with cones in line with the arm, each offering its own very distinct visual characteristics. At first

**“At MB&F we take our timepieces very seriously, not ourselves”**

### HM3

**MOVEMENT:** self-winding mechanical movement with 22K rose gold battle-axe shaped 'mystery' rotor, 3D horological engine designed by Jean-Marc Wiederrecht/ Agenhor, hour and minute information transmitted via ceramic ball bearings to laser-cut hands

**CASE:** 18K white gold/ titanium or 18K red gold/ titanium, 2 versions: Starcruiser (cones in line with arm) or Sidewinder (cones perpendicular to arm)

**SIZE:** 47mm x 50mm x 16mm

**FUNCTIONS:** hour and day/night indicator on one cone, minutes on 2nd cone, date around the movement

**STRAP:** Black hand-stitched alligator with 18K gold and titanium custom designed deployment buckle

regard the viewer's mind attempts to take in HM3's kinetically energetic movement and reconcile the paradox of it being visible on the top of the watch, before being assailed yet again by twin cones rising majestically from the sculptured three-dimensional case. No wonder so many struggle to comprehend that this dynamic sculpture is actually a highly technical wristwatch.



**Horological Machine N°3**  
Sidewinder, 18K white gold & titanium

**Horological Machine N°3**  
Starcruiser, 18K red gold & titanium



**Horological Machine N°3**  
Sidewinder, 18K red gold & titanium

**Horological Machine N°3**  
Starcruiser, 18K white gold & titanium





With both winding rotor and oscillating balance on top of the machine's engine to better appreciate its beautiful finishing and twin indication cones, HM3 pushes both the technical and aesthetic limits of horological architecture and design further than anyone could imagine . . . and then some! Two high-tech ceramic bearings drive the time indications on the cones: one showing hours and date/night, the other minutes, while an oversized date wheel around the rotor, incredibly a larger diameter than the movement itself, frames the engine.

The prominence of the battle-axe 22K solid gold rotor on top of HM3 increases recognition of this already iconic MB&F symbol. The

**Horological Machine N° 3**  
The ceramic ball bearings transfer the information for the hours and minutes from the base of the movement to the cones

apparently balanced rotor appears to defy the laws of physics in being visually symmetrical instead of featuring a more obviously off-centred mass. This is achieved by machining the underside of one arm to a razor-thin edge so reducing its mass.

**“Whether traditional or avant-garde, a beautiful watch to me is a work of art representing the soul of its creator”**





## HOROLOGICAL MACHINE N°3 FROG

While HM3 looked as dramatic as anything ever worn on a lower arm, the launch of HM3 Frog has the litigating tort lawyers salivating at the prospect of mass shock-induced medical conditions. MB&F's bulging-eyed HM3 Frog has done what many thought impossible: make HM3 look tame!

With HM3, the hour and minute hands rotate around their respective stationary cones, whereas it is the aluminum domes that rotate under the sapphire crystals in the Frog. This required the development of a new gear train



because the aluminum hour dome of the Frog rotates in twelve hours compared to the twenty-four-hour revolution of the HM3 hour hand and, as the oversized date wheel is driven from the hours, the gearing driving the date had to be reworked as well.

The Frog may portray the time in a playful manner, but there is nothing but serious and meticulous attention to detail and care regarding the fine hand-finishing of the high-tuned engine purring within its lightweight high-tech titanium case. HM3 Frog is available in either Grade 5 titanium with blued rotor, or a limited edition of 12 featuring a black-coated titanium case and green rotor.





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### HM3 Frog

**MOVEMENT:** self-winding mechanical movement with 22K blued rose gold battle-axe shaped 'mystery' rotor, 3D horological engine designed by Jean-Marc Wiederrecht/ Agenhor, hour and minute information transmitted via ceramic ball bearings to rotating domes

**CASE:** Grade 5 titanium and display backs with anti-reflective treatment on both faces **SIZE:** 47mm x 50mm x 16mm

**DIALS:** rotating aluminium domes, stationary hands **FUNCTIONS:** Hour on one dome (aluminium dome rotating in 12 hours), minutes on 2<sup>nd</sup> dome (aluminium dome rotating in 60 minutes), date around the movement

**STRAP:** Black hand-stitched alligator with 18K white gold & titanium custom designed deployment buckle

“MB&F’s bulging-eyed HM3 Frog has done what many thought impossible: make the original HM3 look tame!”

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## HOROLOGICAL MACHINE N°4 THUNDERBOLT

From the evolution of MB&F's Horological Machines to date, Büsser's growing confidence in his chosen direction is supremely evident in the Creative Laboratory's latest kinetic sculpture, the faster-than-sound looking HM4 Thunderbolt. The aviation-inspired case and engine of the Thunderbolt are completely integral to each other. Neither would, nor could, exist without the other, yet each is so transcendental as to be able to stand alone as a work of art in its own right.

The Thunderbolt's engine is the culmination of three long years of intensive development in collaboration with Laurent Besse and Beranger Reynard of Les Artisans Horlogers. Each of the 300-plus components – including the regulator and even the screws – was developed specifically for this anarchistic calibre. No off-the-shelf mechanisms or parts were used at all due to the extreme nature of its architecture.



Horizontally configured dual mainspring barrels drive two vertical gear trains, transferring power to the twin pods indicating hours/minutes and power reserve. But describing HM4's engine through its mechanical functionality is like describing Renoir's work through the chemical composition of his paint. Full appreciation follows careful contemplation, and the sapphire case section and display panels top and bottom allow full access to the flawless fine finishing of HM4's intricate and vibrant micro-mechanics.

**HM4**

**MOVEMENT:** hand-wound mechanical movement (72h power reserve) in 3D developed 100% by the MB&F "Friends" (311 components)

**CASE:** Grade 5 titanium and sapphire

**SIZE:** 54mm x 52mm x 24mm

**DIALS:** 5 sapphire crystals: 2 x dials, 1 x central case section, 2 x display panels (top and bottom)

**FUNCTIONS:** Hours and minutes on right dial, power reserve indicator on left dial, separate crowns for time setting and winding

**STRAP:** Black hand-stitched calfskin strap with titanium/white gold custom designed deployment buckle attached to articulated lugs

**“I am not at all the same man  
I was five years ago. I feel stronger,  
more daring, and I am happier  
to get out of my comfort zone.  
More importantly I feel truly serene”**



For a timepiece not developed specifically to tell the time, the Thunderbolt performs that role superbly. In fact, with its highly legible dials perpendicular to the wearer's wrist, Horological Machine N°4 might be described as the perfect pilot or driver's watch.

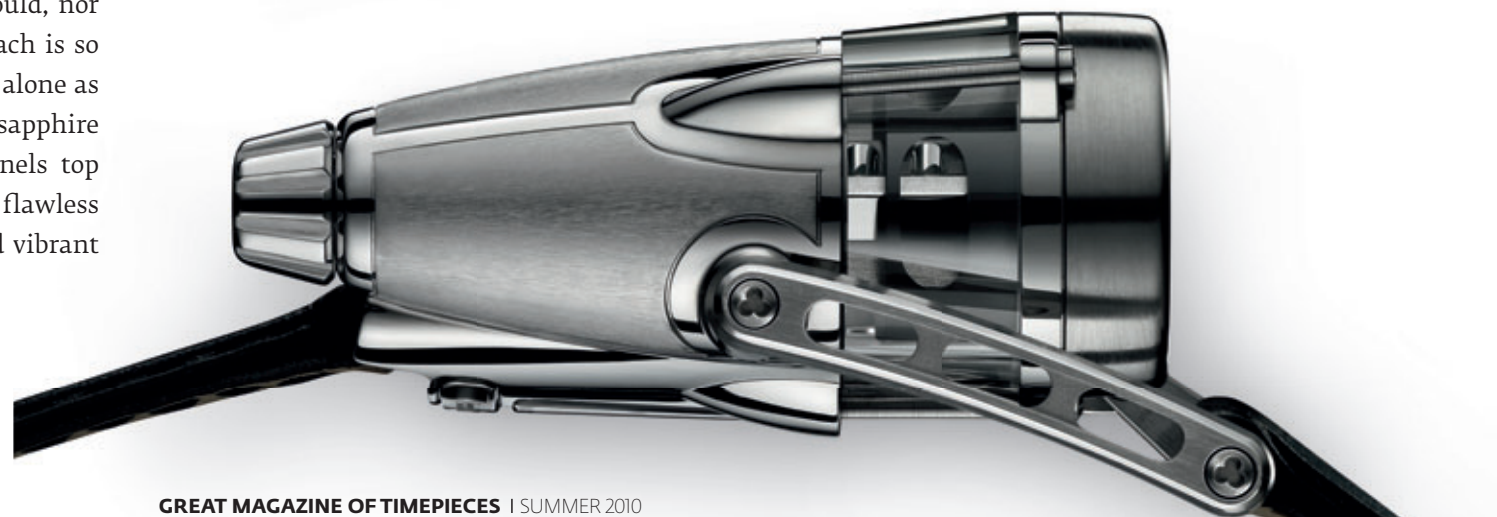
On the left pod, the amount of fuel in the tanks (power reserve) is clearly indicated by a skeletonised hand balanced by MB&F's iconic battle-axe motif. On the right, hours and minutes are displayed by bold, arrow-tipped Super-LumiNova filled hands. Each of the two aviation instrument-styled dials - one to wind and re-fuel the tanks, the other to set the time - is directly controlled by its own crown, providing instantaneous feedback of the action.

**THE THREE-DIMENSIONAL** horological engine developed 100% by the MB&F "Friends" displays its functions on two "dials": hours and minutes on right dial, power reserve indicator on left dial

Visible through a shaped sapphire display panel on the top of the case, a distinctive streamlined cock supports the balance, its centre cut away to reveal as much of the oscillating wheel as possible and validating the "kinetic" in MB&F's "kinetic art".



The aviation-inspired case and engine of the Thunderbolt are one. Neither would, nor could, exist without the other, yet each is so transcendental as to be able to stand alone as a work of art in its own right. The sapphire central case section and display panels top and bottom allow full access to the flawless fine finishing of HM4's intricate and vibrant micro-mechanics.





## PERFORMANCE ART

MB&F's "Performance Art" pieces are limited edition Horological Machines developed in collaboration with selected artists. The Machine is the artist's medium to paint or sculpt it as they will.

### HM2 ONLY WATCH

MB&F's artistic credentials were highlighted by the collaboration with American artist Sage Vaughn for the 2009 Only Watch charity auction. There is a butterfly trapped in the engine of the HM2 Only Watch and it has no hope of escaping because the complicated movement is wrapped in barbed wire.

This emotionally charged piece, a one-of-a-kind interpretation of MB&F's Horological Machine N°2 is signed by Sage Vaughn and was auctioned at Only Watch 2009, the charity auction benefiting research into Duchenne Muscular Dystrophy - a fatal genetic disorder affecting boys - held in Monaco under the patronage of HSH Prince Albert II.



"After four years developing our radical creations, I gathered enough courage into sharing our Machines with other creators. It takes a certain abnegation to see your creations reinterpreted by another, and the results have taken me by surprise"

HM2 Only Watch 2009  
unique piece

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#### HM2.2 BLACK BOX

The artistic collaborations continued with Alain Silberstein, resulting in the Bauhaus-looking HM2.2 Black Box. This model showed to stunning effect the benefits and possibilities of MB&F's modular approach to case construction. As an artist, architect and watch designer, Alain Silberstein is widely known for his bold use of bright colour and pattern so this pure minimalistic Black Box was a departure and a complete surprise.

With its flying-buttress lugs, HM2.2 retains the twin porthole dials and powerful profile of the original HM2, but the rest of the case has been entirely rethought and rebuilt into something with its own lighter and more whimsical personality. Presented in November 2009, Horological Machine N°2.2 "Black Box" was a limited edition of 8 pieces.

#### HM2.2 Black Box

**MOVEMENT:** self-winding mechanical movement with blued 22K rose gold battle-axe rotor, Jean-Marc Wiederrecht/Agenhor calibre designed functionality (349 parts in total)

**CASE:** Silicon-oxide PVD coated titanium, display back with anti-reflective treatment on single face

**SIZE:** 59mm x 38mm x 13mm

**DIALS:** silvered

**FUNCTIONS:** Retrograde date and moon phase on left dial, jumping hours and concentric retrograde minutes on right dial

**STRAP:** Black hand-stitched calfskin with titanium custom designed buckle

**LIMITED EDITION:** 8 pieces



HM4 - The Engine and the Team



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[www.mbandf.com](http://www.mbandf.com)