THE *MANUFACTURE* IN THE *VILLA*

Montblanc has made its watches in the little watchmaking town of Le Locle in Switzerland's Jura region since 1997.

HUMILITY" is the adjective that best describes one of the most charming traits of the residents of the quiet little town of Le Locle. Their self-assessment confirms this: "We haven't given the world any great adventurers or geniuses, but goodhearted people live among us, and we love orderliness and honest labor." These words accurately characterize the people in the mountainous Jura region, which directly borders France.

The area had little more to offer than barren soil, swampy meadows and a rocky alpine landscape, so the mountain folk originally devoted themselves to hunting and animal husbandry. The cold winter months compelled them annually to retreat into their low-slung farmhouses. The situation began to change with the arrival of a man named Perret around the year 1630. Little is known about him except that he came from Renan, a small town near Villeret, where the Minerva watch *manufacture* would later be established. Perret earned his livelihood as a so-called "mechanicus." In the aforementioned year in Le Locle, he made what was probably the Jura region's first timepiece. But the ab-

sence of suitable means of communication, combined with a general lack of interest, minimized the impact of this event. Considerably more transparency would be associated with the subsequent course of history here.

Approximately half a century after Perret, the local chronicles record that in 1679 a horse merchant named Peter caused a small furor. His pock-

A MAN NAMED PERRET PROBABLY MADE THE FIRST TIMEPIECE IN LE LOCLE AROUND 1630.

etwatch was of a type that was practically unknown in this region at the time. But the rigors of travel had caused this mechanical marvel, which Peter had brought from England, to give up the ghost. And no one seemed capable of repairing it. In his hour of need, Peter turned to JeanRichard, a smith who specialized in horseshoes and weaponry. On JeanRichard's premises, Peter discovered various artifacts that had been made by JeanRichard's son Daniel. They were so well crafted that Peter commissioned the young man to revive the lifeless watch. This choice turned out to be a stroke of extreme good luck. The multitalented youth diagnosed the problem and made the tools he needed to rectify it. Daniel JeanRichard even went an important step further: after having painstakingly traced and sketched all the components, he set out to create a device of his own in its image. Eighteen months later, it was ticking to his complete satisfaction. From this moment on, Daniel's future career was clear. He settled as a watchmaker in Le Locle in 1705 and also taught the demanding craft to his five sons. When the pioneer died in 1741, some 400 watchmakers were plying their trade in the mountains of Canton Neuchâtel.

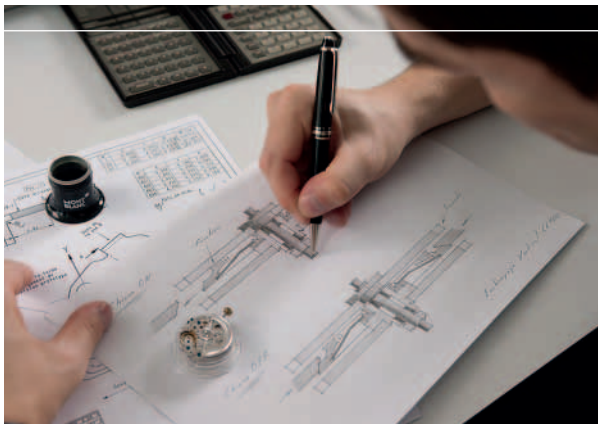
A WATCHMAKING VILLAGE WITH TRADITION

In 1765, artisans in Le Locle and neighboring La Chaux-de-Fonds not only produced numerous domestic clocks, but also crafted some 15,000 silver and gold pocket-watches. Division of labor had already progressed quite a long way in the watchmaking trade. The process involved specialists such as ébauche-makers; case manufacturers; makers of chains, springs and hands; *finisseurs* (finishers); gilders and enamellers. Most of them had workbenches in their homes and accordingly pursued these trades as a cottage industry. The comparatively high level of employment lured many people to the region, where they hoped to find work. This, in turn, led to a noticeable change in living habits.

Many of the locals abandoned their agricultural sideline and began devoting themselves entirely to watchmaking. Even the kings of Prussia, who intermittently ruled the region from 1707 to 1848, were duly impressed by the townspeople's artistry and craftsmanship. The rulers repeatedly summoned watchmakers to the royal court to make timepieces there or else sent them to distant countries to establish independent watchmaking in far-flung locales. The Prussian regime came to an abrupt end with the revolution of March 1, 1848, and the ensuing republican constitution. The royals' fate was diametrically opposite to that of watchmaking, which had permanently established itself. It thrived

A watchmaker performs the final checks on a finished TimeWalker TwinFly Chronograph.

MONTBLANC JOINED THE SMALL, ELITE CIRCLE OF GENUINE MANUFACTURES IN 2006.



Ultramodern high-tech machinery and traditional handcraftsmanship: the watchmaking atelier at Montblanc Montre SA

in ensuing years and brought remarkable prosperity to the population of Le Locle. Angelus, Ulysse Nardin, Tissot and Zenith are only some of the renowned watch manufacturers that made the name of Le Locle known throughout the world in the 19th and 20th centuries.

It was thus a logical decision to settle a strongly value-oriented business like Montblanc Montre SA in this 900-meter-high and idyllically located watchmaking town. A sufficient number of qualified specialists could be found there, as well as a suitable domicile in the form of a stately 19th-century villa. After judicious renovations and skillful expansions had transformed the villa into a spacious manufacturing site, an impressive palette of high-quality Montblanc wristwatches have been produced here for more than 10 years. The business initially functioned solely as an *établisseur*, a company that produces complete watches from purchased components. But since 2006, Montblanc has been part of the small and elite circle of genuine *manufactures* that make more than one caliber of their own.

Black, gold, seductive: the styling of the first collection of Montblanc watches was oriented according to the design of the legendary black Meisterstück fountain pens.

WHERE DO YOU FILL IT WITH INK?

It was impossible not to detect the scornful tone in the watch journalist's voice when he asked Norbert Platt in 1997: "Where do you fill it with ink?" Platt, who was then Montblanc's CEO and later CEO of the Richemont Group to which Montblanc belongs, responded with composure. After all, he had given top priority to the creation of Montblanc's own collection of watches. "That development occurred parallel to the writing implements. Montblanc is basically a monolithic product, i.e., the Meisterstück: black rim, gold, seductive. We decided to produce our first watches with black dials and gold cases in order to consciously generate self-similarity."

In the meantime, the erstwhile mockers have fallen silent. Montblanc has pursued a policy that has earned its watches widespread international recognition. The best proof of its success is the impressive numbers of units shipped each year from the light-flooded workshops in Le Locle. As a member of a large luxury group that publishes statistics only in consolidated form, Montblanc refuses to specify exactly how many watches it produces annually, but it's no secret that the quantities are in the six figures. Whenever a discussion turns to products from Montblanc, and thus also to watches, the following aspect plays an important role: Montblanc is a watch brand that doesn't grant licenses, but manufactures on its own. This is also true in Le Locle, where the luxury business with *manufacture* standards has operated a highly modern production site for approximately the past 15 years. As is true for all products with the familiar white star, quality takes top priority at the Le Locle facility. Nothing is left to chance, starting with product development and continuing all the way through to the final quality control, which mercilessly ferrets out any imperfections. Those in charge of checking quality know all too well that "to err is human."

Incidentally, timepieces bearing the name of Mont Blanc (Europe's tallest peak) are not new. As early as 1889, nearly two decades before the birth of the Montblanc writing instrument company, the Swiss watch producer Suter received trademark protection for the "Mont Blanc" name. For many decades thereafter, watches of various kinds were made in the little town of Büren on the Aare River. Suter ceased its operations in the 1950s or '60s — a stroke of luck for the Montblanc writing-instrument company, based in Hamburg, Germany, because it enabled the firm to start making luxury watches under the Montblanc name.

IN THE BEGINNING WAS THE MEISTERSTÜCK

Montblanc's famous Meisterstück fountain pen was introduced in 1924. The pen's ascent to the status of cult object was only a matter of time. Its design alone imbued it

with extremely high value. This was accompanied by tradition, lovingly executed manual craftsmanship and longevity. This was an iconographic product that one took into one's hand with due respect when one wanted to write important words. Since 1997, the qualities of the Meisterstück have found their logical continuation in wristwatches.

A SHORT VISIT

The broad, north-facing, windowed façade of the Le Locle *manufacture* ensures constant lighting conditions for the artisans in their ateliers. The glare associated with direct sunlight would be as unfavorable to concentrated work on the mechanical movements as wandering shadows would. These watchmakers' forefathers were well aware of this. Even after artificial illumination became widespread, north light has remained essential.

THE MEISTERSTÜCK PEN FOUND ITS LOGICAL SEQUEL IN WATCHES STARTING IN 1997.

The brand-new workshop in which meticulously trained specialists assemble the Rieussec chronograph Calibers MB R100, MB R110 and MB R200, and where they will also assemble the MB LL100 in the future, occupies a central location. This atelier was created under the aegis of the experienced master watchmaker Thierry Pellaton, a member of the well-known dynasty of watchmakers to which Albert and James Pellaton belong and which, among its other contributions, has made a name for itself through tourbillons and other ingenious mechanisms, and through precision fine adjustment.

The 50-year-old Pellaton was present at the creation of the Montblanc watch brand. He was there before the official launch in 1997, when the first timepiece was yet to be developed in the former Cartier factory in Villeret. (It now houses the Nivarox-FAR component manufac-

Limited to 300 pieces: the TimeWalker TwinFly Chronograph in titanium. Right: the TimeWalker SteelGold

The atelier was created under the directorship of Thierry Pellaton.

METICULOUS TESTING GUARANTEES THE HIGH QUALITY OF THE MOVEMENTS.

turer. The building is not far from the thoroughly renovated Minerva building; more on this later.) When Montblanc's CEO Norbert Platt offered him the job of product manager, Pellaton didn't hesitate. "That was a big opportunity for me, and there was no reason not to accept it," he says. What happened next were long years of hard work. "Among my other responsibilities," Pellaton explains, "was developing production lines from the proverbial 'square one' and installing the technologies needed for the production of complete watches." The ateliers for the Rieussec calibers are also the work of this enthusiastic watchmaker. The bulk of the work was completed by 2009. After the usual "growing pains" were overcome, the manufacturing functioned impeccably, which meant that it was time for Pellaton to say goodbye — but not from Montblanc, which had no intention of letting a man with his qualifications walk out the door. But the new Montblanc calibers, with their many technical special features, posed far greater challenges than tried-and-tested movements like the ETA 7750. Pellaton has accordingly been traveling the globe for the past two years as a trainer, passing along his extensive knowledge and expertise to boutique personnel, to watchmakers who service timepieces, and also to potential customers. "This is an exciting challenge for me because now I'm not so much a manager and more of a watchmaker... now I'm doing what I originally learned."

Among the other movements that take shape in the workshops that Pellaton directs are highly complicated ones consisting of more than 280 components. Regular checks ensured the detection of any errors which, unseen at this stage, would require investments of too much time and labor to rectify later. When specialists rely on ultramodern tools and devices, some of which were developed expressly for assembling the *manufacture's* own Rieussec calibers, these artisans know that each component has already been subjected to meticulous quality controls. Many hours pass before a gentle impulse finally breathes life into the complex whole. It begins to tick, accurately subdividing the uniform flow of time into precisely defined segments, of which there ought to be exactly 28,800 each hour. Every deviation from this norm causes the watch to gain or lose a bit of precious time. Specialists are responsible for regulating the timepieces so that they oscillate at precisely this desired frequency. They know that the satisfaction of the watches' future customers will depend not only on the timepieces' reliability, but also on their precision timekeeping. That's why deviations of no more than minus-two or plus-six seconds per day are permissible. The results of the 500-Hour Test, which we will explain in detail later, are merciless proof of the proverbial pudding for the participating watchmakers.

CERTIFIED PRECISE RATE

Some of the classical automatic chronographs in the Star 4810 line can even boast official verification of their outstandingly accurate rate, which is 99.99 percent perfect. The ETA-Valjoux 7750 calibers inside these timepieces take a little detour before insertion into their cases. At a somewhat lower altitude in the town, the staff of the Contrôle Officiel Suisse des Chronomètres (COSC), the official Swiss chronometer testing agency, performs its daily work in comparatively unadorned rooms. Neutrality is the first commandment here. As part of their official duty, these impartial examiners give equal treatment to

all submitted movements. The prerequisites are that the movements are "Swiss made" — a stipulation with which all of Montblanc's movements easily comply — and that they do not exceed predefined dimensions. The procedure is conducted in accord with Swiss norm SN/ISO 3159, which specifies that Montblanc mark each candidate with an individual serial number and submit it in a transparent plastic case. The COSC's examiners accept neither winding rotors on automatic movements nor the brand's own crowns, with their distinctive white stars. Additional conditions include a special dial solely for test purposes and a standard seconds hand. The Rieussec chronograph indicates the seconds via a rotating disc, so it is unfortunately ineligible for the chronometer test. However, Montblanc's in-house scrutiny is at least as strict as the COSC's examination.

The official procedure begins when electrical motors wind the movements for the first time. Afterward, everything continues according to a well-rehearsed schedule. Twenty-four hours in the flat position with the crown toward the left at 23 degrees Celsius; a control measurement; winding by machine; another 24 hours in the flat position with the crown left. The COSC relies on ultramodern, computer-assisted methodology to record the results. A special camera keeps an unblinking eye on everything. Combined with a computer and a time signal transmitted by radio from Mainflingen (near Frankfurt), the COSC detects deviations of fractions of a second. The various data are conveyed to the electronic memory so that the results are instantly available after the conclusion of the 15-day ordeal. Watch movements that grind to a halt or fail to satisfy the criteria are returned to their senders without further comment.

Movements that pass the COSC's examination — which insists, for example, that the average daily rate at temperatures between eight and 38 degrees Celsius not stray from within an exactly defined spectrum ranging from minus four to plus six seconds — begin their homeward journey accompanied by a "Grand Bulletin de Marche" in which all empirically determined values are listed in great detail. After the approved watches have returned home to Montblanc, each receives its final dial, bearing the additional word "chronometer," along with the final hands, case and strap. Then the watch undergoes an equally merciless final check in which, needless to say, the watch must again perform in accord with its COSC-certified rate results.

WATCH COMPETENCE

The scoffer who asked in 1997 about filling the watch up with ink may have lacked the ability to imagine what a traditional *manufacture* with globally recognized competence in writing implements can achieve when it sets its mind to the new but by no means alien discipline of

DLC-coated stainless-steel case: the automatic chronograph from the Sport line

measuring time. As a member of the Richemont Group, which already included renowned brands such as Baume & Mercier, Cartier, Piaget and Vacheron Constantin, Montblanc could count on assistance from sister brands with relevant know-how. But Norbert Platt and his team insisted on the greatest possible autonomy with regard to the design and placement of the brand's products, which would be conceived to satisfy the wishes of the intended target groups. At first, these were primarily people with an insatiable desire for writing implements marked with the significant little white star that identifies their owners as genuine connoisseurs. From past experience, these people could trust that Montblanc would be as uncompromising with its new timepieces as it has always been with its fountain pens and leather goods. The customers were right — and so, too, was Montblanc, because the first Meisterstück watches, with their stylishly modified corporate design, enjoyed meteoric success. The deep black hue of the legendary fountain pens reappeared on the dials of the new watches, and the gleaming gold of the nib, clip and cap banderole shone from the cases, hands and raised Arabic numerals. The typeface used for the numerals consciously reflects the style of the era when the first Montblanc writing implements were created. Equally striking and unmistakable was the eternalizing of the brand's name on the case's flank. Individual serial numbers gave customers the feeling that they would be able to strap something truly unique to their wrists. Last but not least, the familiar white star adorned the winding and hand-setting crown and the clasps of the handmade leather straps, or served the practical purpose of acting as a counterweight on the center-mounted seconds hand.

Right from the start, each watch demonstrated love for the finest details, the striving toward unconditional perfection and, naturally, also the endeavor to achieve a high degree of recognition. People who treat themselves to a Montblanc watch also want to unobtrusively show that time is too precious to be entrusted to just any instrument with rotating hands for the hours, minutes and seconds.

VERSATILITY FOR ALL OF LIFE'S SITUATIONS

Montblanc has also chosen equal rights for both genders as its maxim. This is evident, for example, in the models of the Star Lady collection, which not only offer sparkling diamonds, but also contain mechanical move-

Ladies' watches from the Star (left) and Profile collections

ments. Many women own several watches, so Montblanc naturally also offers the convenience and extreme precision of quartz technology, which makes it easier to change one's watch because even after it has spent many weeks languishing in a safe, it emerges from confinement still showing the correct time.

As its name suggests, the Profile Lady line appeals to women who are looking for a wristwatch with a certain difference: powerfully expressive through the combination of classical and stylish elements, and valuable thanks to the cases' materials and the expert processing of precious stones.

Women and men alike are equally well dressed for all outdoor activities with the distinctive "Sport" line. Montblanc has designed these wristwatches to cope with rough treatment. The black Sport Automatic Chronograph is a real eye-catcher. Its elegant, 44-mm-diameter case can dive to 200 meters without allowing water to penetrate, and its highly scratch-resistant DLC coating doesn't mind an occasional blow. DLC (diamond-like carbon) is far more scratch- and abrasion-resistant than other coatings (such as PVD) because its hardness exceeds 5,000 Vickers, which means it is seven times harder than the stainless steel that it coats and protects. The disadvantages are the extra time consumed by the surface-enhancing process and the additional expense that results. In return, however, this attention-getter promises a long and carefree friendship with a beautiful timepiece.

The very popular StarWalker series of writing implements is a perfect match for the successful TimeWalker watch line. Reduction to the bare essentials is the salient feature: clear, objective architecture distinguishes the language of forms, ideal legibility is ensured and, if desired, helpful additional functions such as a second time zone or a chronograph are available. These wristwatches rigorously eschew ostentation and superfluous frills.

If not before, then at the latest in 2006, it became obvious that Montblanc also understands the highly complicated side of the horological arts. The brand celebrated its 100th birthday with a nod to Gaius Julius Caesar. The model's name, Star Chrono GMT Perpetual Calendar, was message enough: it signaled what's contained inside the 43-mm gold case. Its perpetual calendar refers to the Julian calendar, which was originally introduced by Caesar. Assuming that it continues to be regularly wound, the watch's calendar will need no manual correction until 2100. "GMT" alludes to the display of time in a second zone, a function which the enhanced base Caliber ETA 7754 offers along with self-winding and a chronograph. The only bit of bad news: Montblanc limited the three versions of this timepiece (in white-, yellow- or rose-gold cases) to 100 pieces in each. The special threaded crown on each is adorned with a genuine diamond.

Two popular functions are combined: the Star Chrono GMT

MONTBLANC CAN BOAST THAT IT HAS MASTERED EVERY VARIETY OF CHRONOGRAPH TECHNOLOGY.

At this time, work at the Le Locle-based watchmaking subsidiary of the Hamburg-based company was already well underway on a project that created a watch-world buzz in 2008. Its name: Rieussec. A separate chapter will focus on the creative inventor of the chronograph and his career.

MASTERS OF ALL CLASSES

Montblanc can boast of having mastered every variety of chronograph technology. Regardless of whether it's a column wheel or a cam-shift mechanism, whether it relies on an oscillating pinion or friction coupling, and

286 components: Caliber MB R100 for the Rieussec Hand-Wound Chronograph

whether the winding is manual or automatic, the time writers at Montblanc encompass all the varieties of chronographs. Considering the broad spectrum, which ranges from fine steel chronographs with automatic Caliber ETA-Valjoux 7750 to the crème de la crème from Villeret, there is something for everyone. This has been all the more true since 2008, the 100th anniversary of the signing of the contract that established the Simplo Filler Pen Co. in Hamburg, which became Montblanc. The anniversary coincided with the debut of an unconventional time writer that spectacularly paid homage to Nicolas-Mathieu Rieussec and his rotating dials.

Montblanc again upheld the principle of diversity in the "Rieussec" of the 21st century, which, in contemporary style, is designed to be worn on the wrist. The customer has the choice of either a manually wound or automatically winding model. Each method for replenishing the supply of energy has its own specific appeal. Common denominators are the many years of development work that culminated in two different calibers, each of which measures 31 millimeters in diameter. Caliber MB R100 combines 286 components and needs attention after about 72 hours — say, after its owner has spent a long weekend without a wristwatch. Its two mainsprings must be reloaded by turning the crown a few times. A little "gas gauge" on the back of the movement counteracts the tendency to forget. The lucky owners of this model will no doubt consult this display from time to time. Behind the protective pane of sapphire crystal in the back ticks a meticulously finished caliber with a 9.7-mm-diameter balance, which has variable torque and completes 28,800 semi-oscillations each hour beneath its wide bridge.

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MOTIONLESS HANDS, ROTATING DISKS

The allusion to Rieussec, the inventor of the first genuine chronograph, presents itself on the front of the timepiece. No hands turn in the lower half of the dial: instead, two little disks rotate there. The left-hand disk indicates the elapsed seconds; the right-hand disk tallies up to 30 elapsed minutes. The ordinary time is kept in the upper half of the dial, where three hands indicate the hours, the minutes and the date. Horological voyeurs will be delighted with hand-wound Caliber MB R110 and its pierced front. The unique disk counters of this chronograph, which includes 263 components, recall Nicolas Mathieu Rieussec, who is credited with the brilliant invention of the first time writer 190 years ago in Paris. The technical specialties of the contemporary device include cleverly meshed gears that significantly reduce wear and minimize energy consumption. Two barrels store enough power for 72 hours of energy. After a sporty weekend in the great outdoors — during which the owner of this precious and strictly limited anniversary edition with its new, artistically guilloché-embellished dials may have wisely chosen to keep it in a safe — the 190 pieces in red gold, the 90 in white gold and the 25 in platinum will all be found merrily ticking, just as if they'd been taken along on the excursion.

TIME WRITERS AND WATCHES FOR CONNOISSEURS

Such careful handling would be a downright insult to the steel, and thus significantly more robust Rieussec chronographs, which also contain the brand's own Caliber MB R200. These watches are designed to accompany their wearers, regardless of gender, always and everywhere — ideally all the way around the globe. Because unlike hand-wound Calibers MB R100 and MB R110, Caliber MB R200 has a practical time-zone indicator with two hour hands: the upper one can be conveniently reset in hourly increments by turning the crown, while the lower one persistently continues to keep track of the time in the wearer's home zone or reference zone. To prevent misunderstandings (and annoying phone calls in the wee hours of the morning), it's accompanied by a day-night indicator that informs globetrotters whether their distant partners are asleep or awake. The date display on the right side of the dial follows the local time zone's hour hand. The base movement corresponds to the MB R100, which means a balance frequency of four hertz, a single button to start, stop and return the chronograph's hand to zero, plus a column wheel and vertical friction coupling in the chronograph. A central ball-borne rotor conveys energy to the two mainsprings, which, when fully wound, can store enough power for 72 hours. Like the hand-wound movements, 31-mm-diameter and 8.46-mm-tall Caliber MB R200 has a 9.7-mm-diameter screw balance with a stately moment of inertia of 12 $mgcm^2$.

Montblanc's product developers are well aware that not all chronograph aficionados are enthusiastic about single-button control and rotating disks à la Rieussec. Many connoisseurs appreciate the conventional version with hands on the dial and two buttons on the case's right-hand flank. On the other hand, they don't want to make do without exclusive mechanisms and the convenience of automatic winding. Ever since the SIHH watch salon in Geneva in 2011, these demanding customers have been able to find what they're looking for among Montblanc's products. The magic formula is called the TimeWalker TwinFly Chronograph. This eye-catching wristwatch encases a brand-new self-winding manufacture movement designated by the alphanumerical moniker "MB LL100." This caliber was developed in cooperation with ValFleurier, the highly specialized sister company. Among the attributes of the time-writing additional function, which should not be taken for granted nowadays, are energy-saving vertical friction coupling and a classical column wheel. Wholly different, innovative and outstanding because it's intuitively legible: these virtues distinguish the chronograph's centrally positioned counter for 60 elapsed minutes. New in the familiar spectrum of Montblanc chronographs is also the option of zero-return at any desired moment, better known as the "flyback" function. Connossieurs will appreciate the 24-hour hand with day-night display below the "12," which offers temporal orientation everywhere in the world. The philosophy of power reserve throughout a watchless weekend continues in this model, which boasts a 43-mm-diameter titanium case coated with black DLC. Sufficient energy for 72 hours, stored in two barrels, doesn't only enhance one's peace of mind — it also ensures a regular moment of inertia and an accordingly accurate rate for more than two days. Montblanc has limited the edition of this distinguished black member of the frill-free TimeWalker line to 300 pieces, so potential purchasers would be well advised not to delay. The stainless-steel version, on the other hand, is produced in an unlimited number.

TRUST IS GOOD, CONTROL IS BETTER

This motto, attributed to Lenin, is also cherished by Thierry Junod, who has directed the manufacturing site in Le Locle for over four years. "Quality, quality and more quality" is the slogan of the 38-year-old director, who does not come from a watchmaking family. This academically trained economist acquired the qualifications for the directorial job in his leisure time, during which he trained for and passed the examinations leading to a career as a watchmaker. This is also evident when one tours

the high-tech atelier, which began operations in 2010 and in which all Rieussec models are submitted to a 500-hour test before they embark on the journey that will ultimately unite them with their future owners. Careful scrutiny of the chronograph explains why the job of certifying the rate isn't outsourced to the examiners at the neighboring COSC: the calibers, regardless of whether they're manually or automatically wound, have no seconds hands. This absence disqualifies them from participating in the COSC's tests, but Junod isn't disconsolate about it: "Our testing procedure, which involves the complete watch, enables us to test much more precisely and ultimately yields more detailed information about the performance of each individual movement." The check runs according to a clearly defined procedure, which takes into account different temperatures, as well as the various positions of the watch and its behavior with the chronograph function switched on and off. The laborious process accurately simulates the conditions the watch experiences on its wearer's wrist. Hence, the requirements are stricter than those specified by the COSC which, on the one hand, merely observe the watch's performance and, on the other hand, measure the movement's timekeeping in five standardized positions. For this purpose, Junod and 28-year-old Alexandre Antoine, who co-direct the scrupulously clean atelier, compiled a special machine park. Cyclotest watch-movers with built-in microphones are part of the equipment, as are tried-and-tested Witschi measuring stations. Nothing can escape detection by the "listeners" and the allied electronics. "We individually evaluate each curve," the mechanical engineer explains. "This quickly reveals any problems or irregularities." Junod adds, "Our analysis mercilessly discloses shortcomings in a watch movement so we can rectify any flaws and then retest the optimized product." Finally, the only watches that leave the premises are those that, over the course of 23 days, have not deviated from perfect timekeeping by more than minus-two or plus-six seconds per day.

The extra effort paid for itself in only one year's time: "The number of MB R200 calibers that have been returned to the manufacture can be counted more or less on the fingers of one hand," Junod says. "Formerly, without this test, things looked quite different, as they do, incidentally, for every brand-new movement. It might sound a bit harsh if I were to call it a nightmare, but the word accurately describes the reality." Without a doubt, the brand-new automatic Caliber MB LL100, even though it has a seconds hand, also undergoes the brand's own precision tests. The considerably large amount of additional effort ultimately pays for itself because it markedly increases customer satisfaction.

Easy to operate: the Star World-Time GMT shows the time in two different zones.

Alexander Schmiedt is responsible for the entire watch division at Montblanc.

Thierry Junod has directed the manufacturing facility in Le Locle for more than four years.

ALL RIEUSSEC MODELS MUST PASS AN ELABORATE 500-HOUR TEST.

AT HOME THROUGHOUT THE WORLD

Another newcomer, the Star World-Time GMT, has a steel case but no chronograph function. This self-winding timepiece is designed for people who often make long-distance telephone calls or who need to keep an eye on the opening hours of stock exchanges in far-away cities. By purely mechanical means, its dial depicts the time in two different time zones. The 12-hour hand, which is continually coupled to the movement, indicates the local time, while the smaller hand with the red tip can be reset in hourly increments. The allied scale, contrastingly colored for unmistakable legibility, shows whether it's day or night in that distant time zone. An especially convenient feature of this multifunctional timepiece: all its various functions can be controlled through the winding- and hand-setting crown. These include manual winding of the automatic movement and resetting the outer hour ring, the 24-hour hand, the date and the time. Montblanc uses reliable automatic Caliber ETA 2893-2 as the base movement. The time-zone mechanism was created in collaboration with Dubois-Dépraz in the Vallée de Joux.

A CHRONOGRAPHIC MANIFESTO

One hundred and ninety years of time writers! An event of this magnitude cannot be allowed to pass without being celebrated by Montblanc, the watch *manufacture* that honors the memory of the French watchmaker Nicolas Mathieu Rieussec. The first highlight came in 2008 with the creation of the Star Nicolas Rieussec collection with exclusive Calibers MB R100 and MB R200. The greatest highlight to date followed in 2011. The Nicolas Rieussec Horological TimeWriter is an impossible-to-overlook chronographic manifesto and a horological statue erected to honor the great inventor. This table clock measures 13 inches in height, 13 inches in width and about 9 inches in depth. Developed in collaboration with Erwin Sattler, the Munich-based clock manufacturer, this mechanical monument weighs a hefty 42 pounds when fully equipped. The timepiece has multiple capabilities: first, it's an unprecedented tabletop chronograph with time-measuring and stopwatch functions. For technical reasons, Montblanc and Sattler opted for two separate movements. Let's begin with the chronograph, which, entirely in keeping with Rieussec's concept, indicates elapsed intervals via rotating disks and motionless hands: rotating hands can be sought, but not found. The teeth on the gold-plated gears are individually and sequentially milled from solid brass. This time-consuming process is followed by meticulous fine processing. The big barrel transfers its energy to the oscillating and escapement system, which has a screw balance and a blued hairspring, via a chain and fusée mechanism. This ensures an extremely constant flow of force for no fewer

Only 19 pieces: the Nicolas Rieussec Horological TimeWriter was developed in collaboration with Erwin Sattler

IT TAKES FIVE YEARS TO DEVELOP A NEW CHRONOGRAPH CALIBER.

than 360 consecutive hours of power reserve. Two buttons, positioned outside the glass dome, control the start, stop and zero-return functions. Incidentally: the zero-return command can be triggered while the chronograph is running. The seconds disk then instantly resumes its motion: this is a so-called "flyback" function.

The extra effort invested in the stopwatch mechanism continues in the movement that animates the time display. Fifteen days of power reserve, force conveyed via cam and cable, and the best and most finely processed components: Montblanc would settle for nothing less. The dial, which is prominently positioned in the center, calls to mind the Rieussec wristwatch chronographs. All steel hands are convexly curved and manually blued. To ensure that the extremely long-running power reserve doesn't lull the owner into forgetting to wind this clock, a "gas gauge" serves as a reminder that the key needs to be inserted to retighten the mainspring.

The third function of the Nicolas Rieussec Horological TimeWriter is a winder for self-winding wristwatches. Here, too, top-quality mechanisms are used. Intelligent guidance electronics, selectable via USB connection, calculate the best winding intervals for each of the movements in the device. The barrels are automatically rewound until they have amassed exactly the right amount of energy. When this work is done, the inserted wristwatch stops in the exactly vertical position. On the movement side, the watch-winder is preprogrammed for the winding cycle of a Nicolas Rieussec Automatic Chronograph.

A dome of mineral glass protects this almost monumental-looking *opus technicum*. A rechargeable gel battery in the base provides the electrical energy to operate the watch-winder, the elevator mechanism that lifts the glass dome, the LED lighting and the chronograph's buttons, while simultaneously avoiding the need for unattractive power cords.

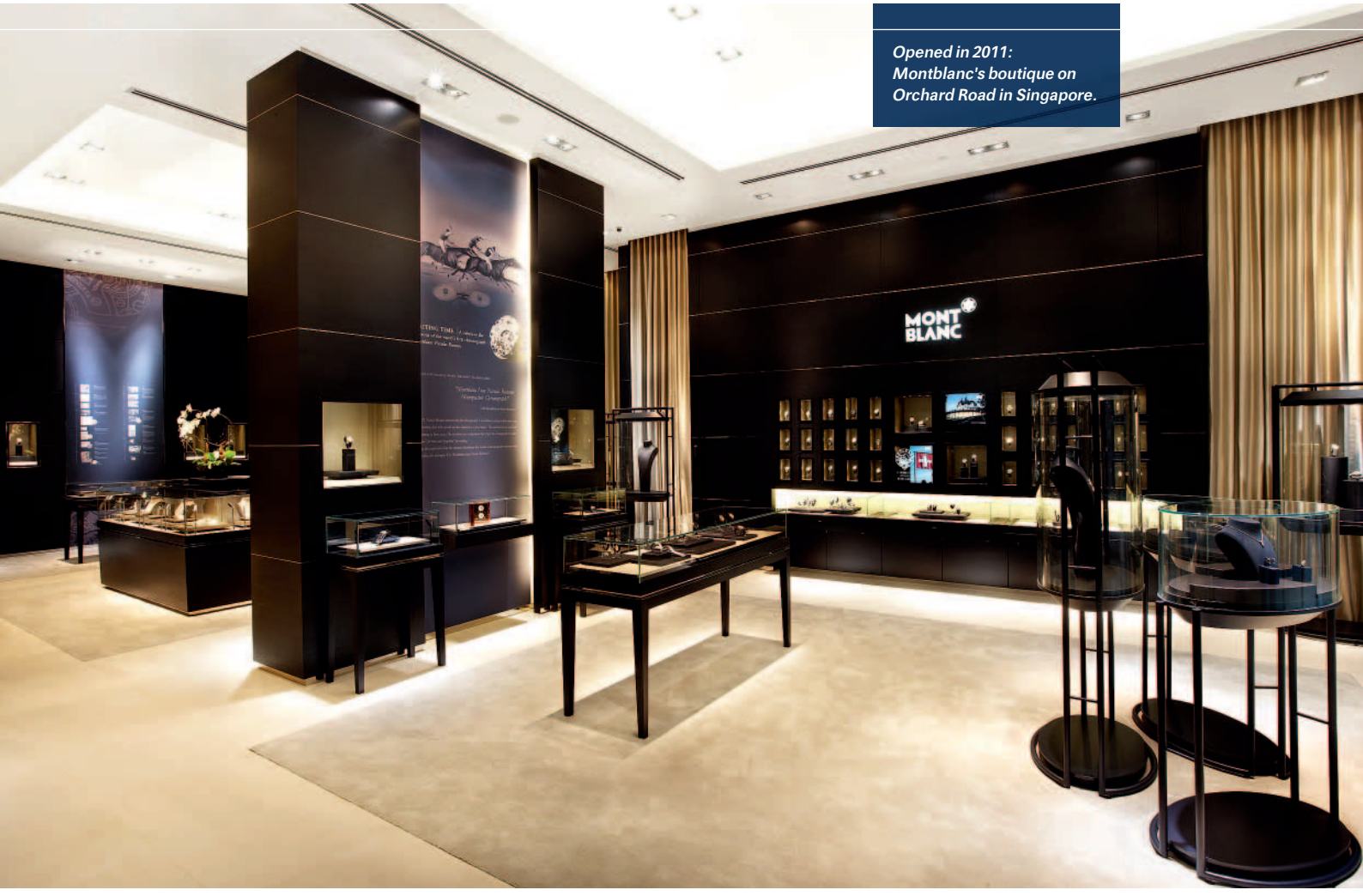
It goes without saying for Montblanc that this crowning invention from Le Locle deserves to be delivered along with a specially designed Nicolas Rieussec Automatic Chronograph, available only in this exclusive set, with a rose-gold case and Caliber MB R200. The limited edition consists of this synthesis of the horological arts: worldwide, only 19 connoisseurs will be able to adorn their homes and wrists with the two timepieces that together comprise this opulent ensemble.

Many fans of chronographs will no doubt come up empty handed, but they needn't despair. Instead, they'll simply have to wait until 2021, when Monsieur Rieussec's invention will celebrate its 200th anniversary. Anyone who is even superficially acquainted with Montblanc will no doubt already suspect that this bicentennial will not pass without the launch of a "crown upon the crown."

A LOOK INTO THE FUTURE

What will Montblanc release as its next pleasant surprise for fans of chronographs? The answer remains a closely guarded secret. Neither

Alexander Schmiedt, who is responsible for the entire watch department at Montblanc, nor Junod could be persuaded to make any specific statements about future plans. Nonetheless, it's certain that plenty of interesting pieces are in the pipeline. The plans that chief developer Gildas Le Doussal and his team already have in their computers are more than enough for the coming years. But advance planning is indispensable, because the micromechanical engineer plainly states that "it takes at least five years from the initial plans to the point where a new chronograph caliber is ready for serial manufacturing, especially if one wants to avoid breakdowns afterwards." This 40-year-old specialist knows exactly what he's talking about, because he can look back upon a highly diverse career in the watch industry. ETA, Ronda, Ulysse Nardin and Louis Vuitton were a few of the renowned brands for which he worked before he accepted his current job at Montblanc. "Our goal," he says, "is to gain progressively more control over all developmental processes." The preliminary studies and concepts are currently worked out in Le Locle before the subsequent work on the calibers is undertaken in Buttes by ValFleurier, an affiliated company which operates the machine park for manufacturing plates, bridges, cocks and other components. On the other hand, there are also the Montblanc workshops in Villeret, where some of the prototypes are made today. Montblanc plans to give high priority to investments in this area when the new premises in Le Locle become available. "The machines," Gildas Le Doussal explains, "are the least of our problems. We're much more concerned about finding the necessary specialists. Now that the crisis has subsided, the market has been literally swept clean." This technician views the chronograph as a genuine complication. And he uses the new Caliber MB LL100 as an example to explain the extreme complexity: "Adjusting the flyback mechanism alone took half a year because this feature is far more elaborate than many people think. Mastering the two centrally positioned chronograph hands was a real challenge, too." But this Frenchman loves nothing more than tricky challenges. If that weren't so, he would never have accepted a job at Montblanc: "The Rieussec theme in particular, and chronographs in general, are so exciting that I'm already looking forward to the coming years." ○



Opened in 2011: Montblanc's boutique on Orchard Road in Singapore.