

In-Depth Study

We probe the depths of Blancpain's new dive watch, the Fifty Fathoms Bathyscaphe Flyback-Chronograph.

BY JENS KOCH
PHOTOS BY MARCUS KRÜGER





The hour wheel and minutes wheel beneath it are styled like a Lamborghini's wheel rim.

The Blancpain Fifty Fathoms Bathyscaphe Flyback-Chronograph, introduced at Baselworld last year, is the first Blancpain watch with a 36,000 vph movement. The styling of the watch's hands and indexes, the shape of its case, and the design of its calibrated diving scale all swim in the wake of the Fifty Fathoms Bathyscaphe, launched in 2013. Both models trace their ancestry to the original Fifty Fathoms of 1953: created to meet the requirements of French naval frogmen, it was one of the first divers' watches with a bezel that could be rotated in only one direction.

For our test of the Bathyscaphe Flyback-Chronograph, we first measured its rate on a timing machine. Then, to get a close look at the movement, Caliber F385, we asked watchmaker Florian Pikor, deputy director of the service center for the retailer Wempe in Munich, to take the watch apart.

Its fast-paced balance, and the fact that the movement had been finely adjusted in six positions, not the usual five, raised our expectations for the timing test. Those expectations were met,



and then some: the rate results were excellent. With an average daily gain of just 0.7 seconds and a greatest difference among the different positions of only 3 seconds, the watch earned all 10 points in the "rate results" category. Its performance was equally good when the chronograph was running: a 1.2-second gain per day and a greatest daily difference of just 2 seconds among the different positions. The amplitude, i.e., the arc through which the balance swings, was greater in the flat positions than in the hanging positions, but its decline remained within the normal range. We were pleased to see that switching the chronograph on exerted only a very slight influence on the amplitude.

Rate test completed, Pikor began his disassembly work. We were surprised to see that the back, which looks as though it's screwed into the case, is only snapped



The movement bridges are beautifully embellished.

into place. In fact, a screw-in caseback would have been impossible: the case is made of ceramic, and no one has yet figured out a satisfactory way to use threading in ceramic cases. A snap-fit caseback is no problem here, though, because ceramic cannot bend as steel can, so the case will remain watertight to an impressive 300 meters of pressure. The caseback has a sapphire window.

Thanks to its 36,000 vph balance, this chronograph can in theory measure elapsed intervals to the nearest 1/10 of a second. The 1/10s of a second are marked along the periphery of the dial. In practice, however, the user can count himself

lucky if he can read the scale with an unaided eye because the strokes are so small. Legibility is improved somewhat by the curvature of the elapsed-seconds hand, which conforms to the curve of the domed dial and sweeps closely above the calibrated scale. The elapsed-minutes hand doesn't move continually, but jumps ahead one full increment after each minute, thus preventing erroneous readings of the minutes scale.

The polished ceramic bezel, the domed dial, the domed sapphire crystal and the satin-finished ceramic case all give the watch a high-quality look. The scale on the bezel includes a special detail

Clamping-disks secure the tubes for the push-pieces.



Blancpain Fifty Fathoms Bathyscaphe Flyback-Chronograph

SPECS

BLANCPAIN FIFTY FATHOMS BATHYSCAPHE FLYBACK-CHRONOGRAPH

Manufacturer: Blancpain SA, Le Rocher 12, CH-1348 Le Brassus, Switzerland

Reference number: 5200-0130-B52 A

Functions: Hours, minutes, small seconds, flyback chronograph can tally up to 30 elapsed minutes and 12 elapsed hours, date display

Movement: In-house Caliber F385, automatic, 36,000 vph, 37 jewels, stop-seconds function, Kif shock absorption, fine adjustment via gold screws on the titanium balance, 50-hour power reserve, diameter = 31.8 mm, height = 6.65 mm

Case: Ceramic case; domed sapphire crystal is nonreflective on both sides; snap-fit back with sapphire window, water resistant to 300 m

Strap and clasp: Fabric strap with rubber underside and ceramic pronged buckle

Rate results:

Deviations in seconds per 24 hours (With chronograph switched off / on)

Dial up +1 / +2

Dial down +1 / +2

Crown up +2 / +2

Crown down -1 / 0

Crown left 0 / 0

Crown right +1 / +1

Greatest deviation of rate 3 / 2

Average deviation +0.7 / +1.2

Average amplitude:

Flat positions 314° / 300°

Hanging positions 285° / 275°

Dimensions: Diameter = 43.6 mm, height = 15.25 mm, weight = 96.5 g

Variations: With NATO or fabric strap, stainless-steel case (\$14,800); with stainless-steel case and stainless-steel bracelet (\$17,400)

Price: \$17,200

THE WATCH EARNED A PERFECT 10 IN THE 'RATE RESULTS' CATEGORY.



*CALIBER F385 IS
BASED ON THE
WELL-KNOWN
CALIBER 1180,
WHICH FRÉDÉRIC
PIGUET DEVELOPED
IN 1987.*

that was previously found only on Omega's watches: the numerals and indexes are made of an amorphous metal alloy called Liquidmetal, which adheres especially well to ceramic. With a hardness of 550 on the Vickers scale, Liquidmetal provides better protection against scratches than stainless steel, which has a hardness of approximately 220 Vickers.

The bezel's numerals have a satin finish and the bezel itself a high gloss. Because the numerals are dark gray, they aren't easy to read against the black of the bezel. The luminous dot on the bezel doesn't glow quite as brightly in the dark as do the hour indexes, but the time of day or night is always readily legible whether the ambient lighting is bright or dim. The small seconds hand, in a subdial at 6 o'clock, also bears a luminous dot, so the wearer can confirm even in the dark that the watch is still running. Unfortunately, the chronograph hands lack luminous coating, so they don't contrast very strongly with the dial under most lighting conditions, but the chronograph seconds hand has a red tip, which makes it easy to read.

Starting and stopping the chronograph is also easy, thanks to the smoothly operating push-pieces. The crown can be unscrewed and pulled out without difficulty. The stop-seconds function facilitates precise setting of the time. The watch has a rapid-reset mechanism for the date. The watch's only drawback, as far as operation goes, is the bezel. It requires too much force to rotate and continues to run stiffly even after it has been used frequently. On the other hand, there isn't much unwanted play and scarcely any crevice to collect grime.

TEST

Blancpain Fifty Fathoms
Bathyscaphe Flyback-Chronograph

THE BATHYSCAPHE IS QUITE comfortable to wear. One reason is its light weight, just 96.5 grams. The strap is supple and has a soft rubber underside, further enhancing the wearing comfort. The clasp, also made of ceramic, has sharp edges but you don’t feel them against your wrist. Like the case, the clasp has a satin finish that matches the overall look of the watch. The strap, made of fabric, is also a good match for this watch.

Both strap and clasp are well crafted and designed for sturdiness. The latter is highly scratch resistant due to its material.

The chamfers on the case are very precise. Better yet, the case is very water resistant: Blancpain claims that the push-pieces can even be operated while the watch is submerged.

When Pikor removed the movement from its case, he also removed the crown, the push-pieces and their tubes, which are inserted in a way that makes them easier to service. They’re secured by clamping-disks inside the case. With a black nitrile rubber insulator for the crown’s tube and two insulators of the same material for the push-piece pins, the buttons are better suited for underwater operation than their counterparts on most other chronographs. The back is insulated with green Viton, which is much more resistant than conventional nitrile rubber.

The strap is made of fabric and has a ceramic clasp.



After Pikor took off the hands, which are well crafted but simply shaped, we could get a closer look at the dial. Its underside reveals its origin: the “RW” logo stands for the renowned La Chaux-de-Fonds manufacturer Rubattel & Weyermann, which, like Blancpain,

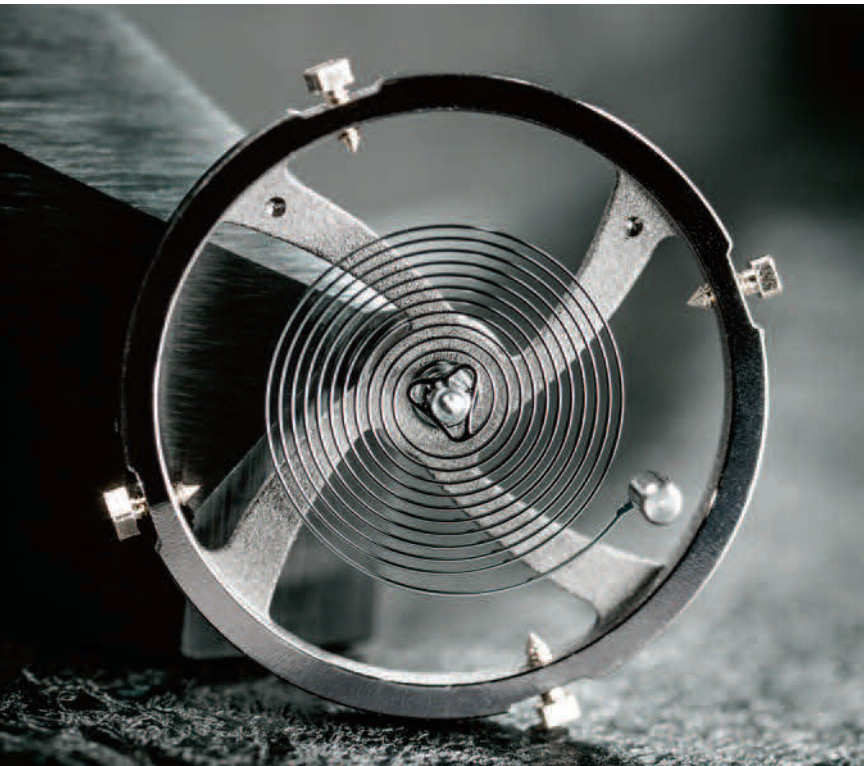
belongs to the Swatch Group. The dial makes a very nice impression with its domed surface, light sunburst pattern, applied indexes, and inset, grooved, elapsed-time counters.

After Pikor removed the dial, we could see the baseplate. Although it is ordinarily hidden, it’s nevertheless adorned with a cloud pattern. The hour wheel has also been given special treatment: it’s been skeletonized to look like a wheel rim on a Lamborghini car. So has the minutes wheel beneath it. Peering through the transparent caseback, we see that the seconds wheel and the third wheel have been, too. All told, the movement includes five such wheels.

This is no accident; Blancpain sponsors the Lamborghini Super Trofeo races, and Blancpain CEO Marc Hayek drives a Lamborghini Gallardo GT3 FL II on the brand’s own racing team. Lamborghini-inspired wheels have appeared in other Blancpain models.

Caliber F385 is based on well-known Caliber 1180, which Frédéric Piguet developed for Blancpain and other brands in 1987. A mere 3.95 mm thick, this hand-wound movement was the

The balance spring is made of silicon, the balance wheel is titanium and the regulating screws are gold.



The chronograph’s vertical coupling mechanism

world’s slimmest chronograph caliber when it was introduced. It was followed by the automatic version (Caliber 1185) and the automatic flyback F185. Both were just 5.5 mm thick. The F185 had a frequency of 21,600 vph, measured 26.2 mm in diameter and had 308 components. Blancpain used it as the base for Caliber F385, which is 31.8 mm in diameter and 6.65 mm thick. Its increased size meant more space for a larger barrel; the balance’s frequency could thus be increased to 36,000 vph without decreasing the power reserve of 50 hours.

The number of bearing jewels remained unaltered at 37, but the new movement gained 14 components, for a total of 322. The wheels and springs are all in the same places, but certain visual features have been changed. The balance cock, for example, is now triangular and skeletonized, and the bridges have been

reshaped and now have apertures through which you can see the wheels.

AFTER PIKOR TOOK off the rotor, made of black gold, we could see that it is borne on a ball bearing built into the automatic bridge. The bridge, which has beveled and polished edges, can be easily unscrewed, leaving a flat bridge behind. We also saw that the movement was originally conceived as a hand-wound caliber. The underside of the automatic bridge is unadorned, but after it had been removed, we noted that the previously hidden places on this component have received the same attractive sunburst pattern that embellishes all the bridges.

The two-part automatic bridge can be disassembled even further. The transmission wheels and reversers for the bi-directional winding mechanism are in a “floating” arrangement between the

SCORES

BLANCPAIN FIFTY FATHOMS
BATHYSCAPHE FLYBACK-CHRONOGRAPH

Strap and clasp (max. 10 points): The fabric strap and its rubber underside are neatly crafted; the somewhat sharp-edged ceramic pronged buckle protects against scratches. **8**

Operation (5): The divers’ bezel turns stiffly, but the easy-to-grasp crown and the push-pieces operate smoothly. A stop-seconds function for the seconds hand and a rapid-reset mechanism for the date display make this watch easy to set. **4**

Case (10): The very pressure-resistant and well-crafted case is made from scratch-resistant ceramic; the divers’ scale is polished ceramic with Liquid-metal numerals. **10**

Design (15): This handsome watch could have somewhat more character, but the combination of retro design and a black high-tech case adds interest to its appearance. **12**

Legibility (5): The time is always readily legible, but the dive time and the elapsed time aren’t quite so easy to read. **3**

Wearing comfort (10): The Bathyscaphe is comfortable on the wrist thanks to the softness of the underside of its strap and the watch’s low overall weight. **9**

Movement (20): The speedily oscillating movement with integrated column-wheel chronograph is well constructed. It has a freely “breathing” silicon balance spring and beautiful embellishments. **18**

Rate results (10): These results were just about as good as they get: there were only minor deviations among the positions and a daily gain of less than 1 second. This watch also keeps time with extreme precision when the chronograph is running. **10**

Overall value (15): A high price, but paying it gets you plenty. **12**

TOTAL: **86 POINTS**



The watch is also available with a NATO strap.

two plates, in which two springs press them against the rotor pinion. Depending on the rotational direction of the rotor, one of the pairs of gears is pushed out of engagement while the other remains engaged and transfers the power to the mainspring barrel. This is how the bidirectional winding process functions in this movement.

When Pikor removed the next large, flat bridge, we could see all of the chronograph's wheels, the escape wheel and the fourth wheel. This is somewhat unconventional, but it also shows how deeply the chronograph's mechanism is integrated into the movement. Separate wheels for the chronograph and the train would have been easier to service

because this would have made it possible to test the train on its own.

The chronograph has vertical coupling. The fourth wheel's shaft is mounted on a disk that's not permanently connected to the shaft. A spring presses this disk against the fourth wheel and thus creates a connection. To separate the coupling, the edge of one disk is cut at a diagonal; two levers, which close like pincers, move one disk away from the other so they're no longer carried along. The coupling is severed.

Vertical coupling ensures that the elapsed-seconds hand starts instantaneously. Classic horizontal coupling can cause this hand to shake or hop if two teeth strike each other when the coupling

is engaged. The disadvantage is that one cannot see very much of the vertical coupling's mechanism.

The watchmakers devised an interesting solution for the zero return. The zero-return hearts of the elapsed-seconds, elapsed-minutes and elapsed-hours counters are simultaneously pushed back into their starting positions by a long, one-piece, zero-return lever. The power from the zero-return button is transferred through only one joint so less force is needed and the buttons run smoothly. The start-stop button is also easy to operate, thanks to its being guided by a column wheel. With vertical coupling and a column-wheel, Caliber F385 clearly embodies a state-of-the-art chronograph.

The balance spring is made of silicon, as it was in the non-chronograph version of the Bathyscaphe. Silicon has diamagnetic properties, so rather than being attracted to magnets, it's slightly repelled by them. This helps to protect the watch from the ill effects of magnetic fields; unfortunately, Blancpain doesn't specify how strong a magnetic field the watch can encounter without being affected. The titanium balance, which has gold screws, also helps protect against magnetism. Like silicon, gold is diamagnetic. Titanium, on the other hand, is paramagnetic, which means that it's attracted by magnets as long as it's in their field of influence, but it doesn't become magnetized itself. Technical support was provided by Omega, a sister company of Blancpain under the Swatch Group umbrella. Omega is a pioneer in protecting movements from magnetism through the use of alternative materials.

Do movement innovations, fine craftsmanship, beautiful embellishment and excellent precision justify the watch's price of \$17,200? The figure is high, and at first dampened our enthusiasm for the watch (so did the price for the steel version, \$14,800). But comparable models from other manufacturers are significantly more expensive, as are Blancpain's models with the old flyback caliber, so our tested watch offers a better cost-benefit ratio. All in all, the price is appropriate. ○